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FILE LAST UPDATED: 1 Mar 2005 (20050301/ED)

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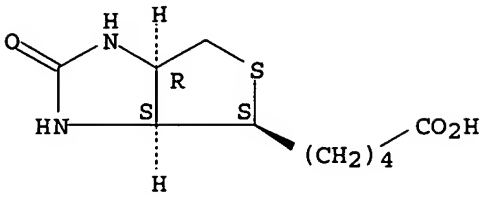
L89 ANSWER 1 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN
AN **2002:282168** HCAPLUS
DN **137:320842**
ED Entered STN: 16 Apr 2002
TI A **chimera** of a gelatinase inhibitor peptide with **streptavidin** as a bifunctional tumor targeting reagent
AU Farlow, Samuel J.; Wang, Ruo Jie; Pandori, Mark W.; Sano, Takeshi
CS Center for Molecular Imaging Diagnosis and Therapy and Basic Science Laboratory, Department of Radiology, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, 02115, USA
SO FEBS Letters (2002), 516(1-3), 197-200
CODEN: FEBLAL; ISSN: 0014-5793
PB Elsevier Science B.V.
DT Journal
LA English
CC 3-1 (Biochemical Genetics)
Section cross-reference(s): 9, 14
AB A **chimeric** protein, consisting of **streptavidin** **fused** to a cyclic **decapeptide** with potent inhibitory activity for matrix metalloproteinases (MMP), has been produced in Escherichia coli and purified. The purified **chimera** formed a **tetramer** and showed full **biotin-binding** ability. The **chimera** was also capable of both **binding** to MMP-2 and inhibiting its activity. Thus, both the **streptavidin** moiety and the **decapeptide** of the **chimera** are fully functional. This bifunctional nature of the **chimera** should facilitate the application of the **decapeptide** since the **streptavidin** moiety can be used as a specific conjugation site for almost any materials upon **biotinylation.**
ST **chimera** gelatinase inhibitor peptide **streptavidin** bifunctional tumor targeting reagent
IT **Fusion proteins (chimeric proteins)**
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(both **streptavidin** moiety and decapeptide with inhibitory activity for matrix metalloproteinases are fully functional; **chimera** of a gelatinase inhibitor peptide with

bad date

streptavidin as a bifunctional tumor targeting reagent)
IT Peptides, biological studies
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(decapeptides, cyclic, **chimeric** cyclic decapeptide with inhibitory activity for matrix metalloproteinases **fused** to **streptavidin**; **chimera** of a gelatinase inhibitor peptide with **streptavidin** as a bifunctional tumor targeting reagent)
IT **Tetramers**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(purified **chimera** formed a **tetramer** and showed full **biotin-binding** ability; **chimera** of a gelatinase inhibitor **peptide** with **streptavidin** as a bifunctional tumor targeting reagent)
IT **58-85-5, Biotin**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**chimera** formed a **tetramer** and showed full **biotin-binding** ability; **chimera** of a gelatinase inhibitor **peptide** with **streptavidin** as a bifunctional tumor targeting reagent)
IT 146480-35-5, Matrix metalloproteinase-2
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**streptavidin fused** to cyclic decapeptide with inhibitory activity for matrix metalloproteinases; **chimera** of a gelatinase inhibitor peptide with **streptavidin** as a bifunctional tumor targeting reagent)
RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Folkman, J; Nat Biotechnol 1999, V17, P749 HCAPLUS
(2) Green, N; Adv Protein Chem 1970, V29, P85
(3) Green, N; Methods Enzymol 1990, V184, P51 HCAPLUS
(4) Hendrickson, W; Proc Natl Acad Sci USA 1989, V86, P2190 HCAPLUS
(5) Hofmann, K; Proc Natl Acad Sci USA 1980, V77, P4666 HCAPLUS
(6) John, A; Pathol Oncol Res 2001, V7, P14 HCAPLUS
(7) Koivunen, E; Nat Biotechnol 1999, V17, P768 HCAPLUS
(8) Laemmli, U; Nature 1970, V227, P680 HCAPLUS
(9) Reznik, G; Nat Biotechnol 1996, V14, P1007 HCAPLUS
(10) Sano, T; Advances in Biomagnetic Separation 1994, P21
(11) Sano, T; Bio/Technology 1991, V11, P201
(12) Sano, T; Biochem Biophys Res Commun 1991, V176, P571 HCAPLUS
(13) Sano, T; J Biol Chem 1995, V270, P28204 HCAPLUS
(14) Sano, T; Methods Enzymol 2000, V326, P305 HCAPLUS
(15) Sano, T; Methods Mol Biol 1997, V63, P119 HCAPLUS
(16) Sano, T; Proc Natl Acad Sci USA 1997, V94, P6153 HCAPLUS
(17) Stamenkovic, I; Semin Cancer Biol 2000, V10, P415 HCAPLUS
(18) Stetler-Stevenson, W; Semin Cancer Biol 2001, V11, P143 HCAPLUS
(19) Stetler-Stevenson, W; Surg Oncol Clin N Am 2001, V10, P383 MEDLINE
(20) Studier, F; Methods Enzymol 1990, V185, P60 HCAPLUS
(21) Weber, P; Science 1989, V243, P85 HCAPLUS
(22) Wei, R; Methods Enzymol 1970, V18A, P424
(23) Wilchek, M; Biomol Eng 1999, V16, P1 HCAPLUS
(24) Wilchek, M; Methods Enzymol 1990, V184, P14 HCAPLUS
(25) Wilchek, M; Methods Enzymol 1990, V184, P5 HCAPLUS
(26) Xia, T; Biochim Biophys Acta 1996, V1293, P259 HCAPLUS
IT **58-85-5, Biotin**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**chimera** formed a **tetramer** and showed full **biotin-binding** ability; **chimera** of a gelatinase inhibitor **peptide** with **streptavidin** as a bifunctional tumor targeting reagent)
RN 58-85-5 HCAPLUS
CN 1H-Thieno[3,4-d]imidazole-4-pentanoic acid, hexahydro-2-oxo-,

(3aS,4S,6aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



L89 ANSWER 2 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN
AN **2000:879142** HCAPLUS
DN **134:159511**
ED Entered STN: 15 Dec 2000
TI A tetravalent single-chain antibody-**streptavidin fusion** protein for pretargeted lymphoma therapy
AU Schultz, Jody; Lin, Yukang; Sanderson, James; Zuo, Yuting; Stone, Diane; Mallett, Robert; Wilbert, Sibylle; Axworthy, Donald
CS NeoRx Corporation, Seattle, WA, 98119-4007, USA
SO Cancer Research (2000), 60(23), 6663-6669
CODEN: CNREA8; ISSN: 0008-5472
PB American Association for Cancer Research
DT Journal
LA English
CC 8-9 (Radiation Biochemistry)
Section cross-reference(s): 15, 63
AB Single-chain Fv antibody fragments from the CD20-specific murine monoclonal antibody B9E9 were genetically engineered as **streptavidin fusions** [single-chain Fv-**streptavidin** (scFvSA) **fusion** protein] for use in pretargeted radioimmunotherapy. The scFvSA constructs were expressed as soluble, **tetrameric** species in the periplasm of Escherichia coli. Expression levels were affected by the order of the variable regions and the length and composition of the single-chain Fv linker. The best expressor was obtained with the variable regions in the heavy chain-light chain configuration separated by a 25-mer Gly4Ser linker. This construct produced 250-300 mg of soluble, **tetrameric fusion** protein per L of fermentor culture. The **fusion** protein (Mr 173,600) was purified from crude lysates by **iminobiotin** affinity chromatog. with an overall yield of about 50% and was analyzed for functionality both in vitro and in vivo. Immunoreactivity of the scFvSA **fusion** protein and its nanomolar affinity to CD20-pos. Ramos cells were comparable with the B9E9 monoclonal antibody. The **fusion** protein had a **biotin** dissociation rate identical to **recombinant streptavidin** and bound an average of 3.6 **biotins**/mol. of a possible 4 **biotins**/mol. Labeled **fusion** protein cleared from the blood of BALB/c mice with a β half-life of about 16 h. In nude mice bearing Ramos xenografts, the **fusion** protein demonstrated sufficient tumor localization of functional **streptavidin** to enable efficient, tumor-specific targeting of a subsequently administered radionuclide-chelate/**biotin** mol. These results suggest that large quantities of functional scFvSA can be produced for clin. testing as a therapy for non-Hodgkin's lymphoma.
ST antibody **fusion** protein **streptavidin** radioimmunotherapy **cloning**
IT Immunoglobulins
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES

(Uses)
(fragments, **fusion** proteins with **streptavidin**; tetravalent single-chain antibody-**streptavidin fusion** protein for pretargeted lymphoma therapy)

IT Lymphoma
(non-Hodgkin's; tetravalent single-chain antibody-**streptavidin fusion** protein for pretargeted lymphoma therapy)

IT **Fusion proteins (chimeric proteins)**
RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(scFv antibody/**streptavidin**; tetravalent single-chain antibody-**streptavidin fusion** protein for pretargeted lymphoma therapy)

IT Antitumor agents
Immunoradiotherapy
Molecular cloning
(tetravalent single-chain antibody-**streptavidin fusion** protein for pretargeted lymphoma therapy)

IT **9013-20-1DP**, **Streptavidin**, **fusion** protein with scFv antibody
RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(tetravalent single-chain antibody-**streptavidin fusion** protein for pretargeted lymphoma therapy)

IT 10098-91-6D, Yttrium 90, conjugates, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(tetravalent single-chain antibody-**streptavidin fusion** protein for pretargeted lymphoma therapy)

RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Anderson, D; US 5776456 1995 HCAPLUS
(2) Aragarana, C; Nucleic Acids Res 1986, V14, P1871
(3) Axworthy, D; Proc Natl Acad Sci USA 2000, V97, P1802 HCAPLUS
(4) Badger, C; Nucl Med Biol 1987, V14, P605 HCAPLUS
(5) Baxter, L; Br J Cancer 1996, V73, P447 HCAPLUS
(6) Breitz, H; Cancer Biother Radiopharm 1999, V14, P381 HCAPLUS
(7) Breitz, H; J Nucl Med 2000, V41, P131 HCAPLUS
(8) Covey, T; Anal Chem 1991, V63, P1193 HCAPLUS
(9) Davis, T; Monoclonal Antibody-based Therapy of Cancer 1998, P113 HCAPLUS
(10) Dubel, S; J Immunol Methods 1995, V178, P201 MEDLINE
(11) Foon, K; PPO Updates: Principles and Practices in Oncology 2000, V14, P1
(12) Gill, S; Anal Biochem 1989, V182, P319 HCAPLUS
(13) Jackson, T; Br J Cancer 1999, V80, P1747 HCAPLUS
(14) Junghans, R; Proc Natl Acad Sci USA 1998, V95, P1752 HCAPLUS
(15) Kabat, E; Sequences of Proteins of Immunological Interest, 5th ed 1991
(16) King, D; Br J Cancer 1995, V72, P1364 HCAPLUS
(17) Kipriyanov, S; Hum Antib Hybrid 1995, V6, P93 MEDLINE
(18) Kipriyanov, S; J Immunol Methods 1997, V200, P69 HCAPLUS
(19) Kipriyanov, S; Protein Eng 1996, V9, P203 HCAPLUS
(20) Knox, S; Clin Cancer Res 2000, V6, P406 HCAPLUS
(21) Koo, K; Appl Environ Microbiol 1998, V64, P2497 HCAPLUS
(22) Lindmo, T; J Immunol Methods 1984, V72, P77 HCAPLUS
(23) Liu, S; J Clin Oncol 1998, V16, P3270 HCAPLUS
(24) Pearce, L; Biochem Mol Biol Int 1997, V42, P1179 HCAPLUS
(25) Press, O; American Society of Clinical Oncology Education Book 2000, P328
(26) Press, O; N Engl J Med 1993, V329, P1219 MEDLINE
(27) Sawyer, J; Protein Eng 1994, V7, P1401 HCAPLUS
(28) Shan, D; J Immunol 1999, V162, P6589 HCAPLUS
(29) Theodore, L; PCT Application International Publication No WO97/46098 1997
(30) Towbin, H; Proc Natl Acad Sci USA 1979, V76, P4350 HCAPLUS
(31) Turner, D; J Immunol Methods 1997, V205, P43 HCAPLUS
(32) Weiden, P; Cancer Biother Radiopharm 2000, V15, P15 HCAPLUS

(33) Whitlow, M; Protein Eng 1993, V6, P989 HCAPLUS
(34) Wilbur, D; J Nucl Med 1989, V30, P216 HCAPLUS
(35) Wyatt Technology Corp; ASTRA for Windows User's Guide, Version 4.50 1997
IT **9013-20-1DP, Streptavidin, fusion** protein with scFv antibody
RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(tetravalent single-chain antibody-**streptavidin fusion** protein for pretargeted lymphoma therapy)
RN 9013-20-1 HCAPLUS
CN Streptavidin (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L89 ANSWER 3 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN
AN **2000:562532** HCAPLUS
DN **133:176293**
ED Entered STN: 15 Aug 2000
TI **Streptavidin muteins**
IN Skerra, Arne; Voss, Selma
PA Institut Fur Bioanalytic, Germany
SO U.S., 15 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM C12P021-06
ICS C07H017-00; C07K014-00
NCL 435069100
CC 16-5 (Fermentation and Bioindustrial Chemistry)
Section cross-reference(s): 3
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 6103493	A	20000815	US 1997-948097	19971009
PRAI US 1997-948097		19971009		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6103493	ICM	C12P021-06
	ICS	C07H017-00; C07K014-00
	NCL	435069100
US 6103493	ECLA	C07K014/36

AB The invention concerns a **polypeptide** selected from **muteins** of **streptavidin** which is characterized in that it (a) contains at least one mutation in the region of the amino acid positions 44 to 53 with reference to wild type-(wt)-**streptavidin** and (b) has a higher **binding** affinity than wt-**streptavidin** for **peptide** ligands comprising the amino acid sequence **Trp-X-His-Pro-Gln-Phe-Y-Z** in which **X** represents an arbitrary amino acid and **Y** and **Z** either both denote **Gly** or **Y** denotes **Glu** and **Z** denotes **Arg** or **Lys.** In addition nucleic acids coding for the **polypeptide**, a vector containing this nucleic acid, a cell transfected with the vector as well as the use of a **polypeptide** in a method for the isolation, purification or determination of proteins are disclosed. Yet a further subject matter is a reagent kit containing the **polypeptide.**
ST **streptavidin** deriv genetic engineering
IT 147395-23-1 205938-74-5 288150-23-2 288166-17-6
RL: ANT (Analyte); ANST (Analytical study)
(peptide ligands for **streptavidin muteins**)
IT **9013-20-1P, Streptavidin**

RL: BAC (Biological activity or effector, except adverse); BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation)
(streptavidin muteins)
IT 288166-18-7 288166-19-8 **288166-20-1** 288166-21-2
288166-22-3 288166-23-4 **288166-24-5**
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(streptavidin muteins)
IT 288166-25-6, 2: PN: US6103493 SEQID: 7 unclaimed DNA 288166-26-7, 11: PN: US6103493 SEQID: 5 unclaimed DNA
RL: PRP (Properties)
(unclaimed nucleotide sequence; **streptavidin muteins**
)
IT **101841-09-2, Streptavidin** (Streptomyces avidinii subunit) 288260-01-5
RL: PRP (Properties)
(unclaimed protein sequence; **streptavidin muteins**)
IT 288150-24-3 288150-25-4
RL: PRP (Properties)
(unclaimed sequence; **streptavidin muteins**)
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Chilkoti; Proc Natl Acad Sci 1995, V92, P1754 HCAPLUS
(2) Reznik; Nature Biotechnology 1996, V14, P1007 HCAPLUS
(3) Reznik; Proc Natl'l Acad Sci 1998, V95, P13525 HCAPLUS
(4) Sano; Proc Natl Acad Sci 1997, V94, P6153 HCAPLUS
(5) Voss; Protein Eng 1997, V10(8), P975 HCAPLUS
IT **9013-20-1P, Streptavidin**
RL: BAC (Biological activity or effector, except adverse); BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation)
(streptavidin muteins)
RN 9013-20-1 HCAPLUS
CN Streptavidin (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **288166-20-1 288166-24-5**
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(streptavidin muteins)
RN 288166-20-1 HCAPLUS
CN DNA (synthetic streptavidin-specific primer P3) (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 288166-24-5 HCAPLUS
CN DNA (synthetic streptavidin-specific primer P7) (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **101841-09-2, Streptavidin** (Streptomyces avidinii subunit)
RL: PRP (Properties)
(unclaimed protein sequence; **streptavidin muteins**)
RN 101841-09-2 HCAPLUS
CN Streptavidin (Streptomyces avidinii subunit) (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L89 ANSWER 4 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN
AN **1999:549373** HCAPLUS
DN **131:155042**

ED Entered STN: 31 Aug 1999
TI **Biotin**-binding receptor comprising a **fusion** of a scavenger receptor and avidin
IN Yla-Herttuala, Seppo; Kulomaa, Markku; Lehtolainen, Pauliina; Marjomaki, Varpu; Airenne, Kari
PA Eurogene Limited, UK
SO PCT Int. Appl., 23 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12N015-12
ICS C12N015-62; C12N015-85; C12N015-86
CC 6-3 (General Biochemistry)
Section cross-reference(s): 9, 63

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9942577	A2	19990826	WO 1999-GB546	19990223
	WO 9942577	A3	19991021		
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2319039	AA	19990826	CA 1999-2319039	19990223
	AU 9926312	A1	19990906	AU 1999-26312	19990223
	AU 750444	B2	20020718		
	EP 1056850	A2	20001206	EP 1999-906341	19990223
	EP 1056850	B1	20040818		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2002504328	T2	20020212	JP 2000-532517	19990223
	AT 274058	E	20040915	AT 1999-906341	19990223
	NO 2000004195	A	20000822	NO 2000-4195	20000822
	US 2004185059	A1	20040923	US 2003-618570	20030711
PRAI	GB 1998-3757	A	19980223		
	GB 1998-13653	A	19980624		
	WO 1999-GB546	W	19990223		
	US 2000-622804	B1	20000822		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9942577	ICM	C12N015-12
	ICS	C12N015-62; C12N015-85; C12N015-86
WO 9942577	ECLA	C07K014/465; C07K014/705
US 2004185059	ECLA	C07K014/465; C07K014/705

AB The **biotin-binding** activity of avidin and **streptavidin** may be utilized in the production of transmembrane proteins capable of **binding biotinylated** mols. Thus, a DNA construct is created between bovine scavenger receptor class A (ScR) and avidin, which codes for a protein having a ScR cytoplasmic domain, membrane-spanning domain, and α-helical coiled domain, ligated to a **biotin-binding** domain of avidin. The transmembrane protein construct comprises an amino acid sequence where residues 1-53 represent the cytoplasmic domain, 55-79 represent the transmembrane domain, 81-111 represent a spacer domain, and amino acids 113-272 represent the α-helical coiled domain of ScR. Amino acids 273-400 represent the mature avidin **peptide** sequence lacking a secretion signal. The translated 55-kDa monomer is able to form 110-kDa

dimers attached by SS bonds as well as forming **tetramers** . The **fusion** protein was a functional protein capable of **binding** FITC-**biotin** when analyzed by confocal microscopy and atomic force microscopy, and can be used for in vitro delivery of a medicament **polypeptide** to a **biotinylated** target site.

ST **biotin** binding scavenger receptor **fusion** avidin; sequence scavenger receptor **fusion** avidin DNA

IT **Molecular cloning**
(**biotin**-binding receptor comprising a **fusion** of a scavenger receptor and avidin)

IT Drug delivery systems
Gene therapy
(delivery to **biotinylated** target site; **biotin** -binding receptor comprising a **fusion** of a scavenger receptor and avidin)

IT DNA sequences
(for **biotin**-binding receptor comprising a **fusion** of a scavenger receptor and avidin)

IT Avidins
RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**fusion** product with bovine scavenger receptor class A; **biotin**-binding receptor comprising a **fusion** of a scavenger receptor and avidin)

IT Protein sequences
(of **biotin**-binding receptor comprising a **fusion** of a scavenger receptor and avidin)

IT Scavenger receptors
RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(type II, **fusion** product with avidin; **biotin** -binding receptor comprising a **fusion** of a scavenger receptor and avidin)

IT 237423-68-6P
RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(amino acid sequence; **biotin**-binding receptor comprising a **fusion** of a scavenger receptor and avidin)

IT **58-85-5, Biotin**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**biotin**-binding receptor comprising a **fusion** of a scavenger receptor and avidin)

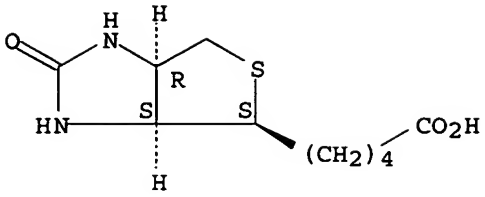
IT 237423-67-5P
RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation); USES (Uses)
(nucleotide sequence; **biotin**-binding receptor comprising a **fusion** of a scavenger receptor and avidin)

IT **58-85-5, Biotin**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**biotin**-binding receptor comprising a **fusion** of a scavenger receptor and avidin)

RN 58-85-5 HCAPLUS

CN 1H-Thieno[3,4-d]imidazole-4-pentanoic acid, hexahydro-2-oxo-, (3aS,4S,6aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



L89 ANSWER 5 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN
AN **1999:510792** HCAPLUS
DN **131:303327**
ED Entered STN: 18 Aug 1999
TI Boron-Enriched **Streptavidin** Potentially Useful as a Component of Boron Carriers for Neutron Capture Therapy of Cancer
AU Sano, Takeshi
CS Center for Molecular Imaging Diagnosis and Therapy and Basic Science Laboratory Department of Radiology Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, 02215, USA
SO Bioconjugate Chemistry (1999), 10(5), 905-911
CODEN: BCCHES; ISSN: 1043-1802
PB American Chemical Society
DT Journal
LA English
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 8
AB A boron-enriched **streptavidin** has been prepared by chemical conjugation of a boron-rich compound, B12H11SH2- (BSH), to a genetically engineered **streptavidin** variant. The **streptavidin** variant used has 20 cysteine residues per mol., derived from a C-terminal cysteine stretch consisting of five cysteine residues per subunit. Because natural **streptavidin** has no cysteine residues, the reactive sulfhydryl groups of the cysteine stretch serve as unique conjugation sites for sulfhydryl chemical BSH was conjugated irreversibly to the sulfhydryl groups of the **streptavidin** variant via a sulfhydryl-specific homobifunctional chemical cross-linker. Quant. boron anal. indicates that the resulting **streptavidin**-BSH conjugate carries approx. 230 boron atoms/mol. This indicates that the chemical conjugation of BSH to the **streptavidin** variant was highly specific and efficient because this method should allow the conjugation of a maximum of 240 boron atoms/**streptavidin** mol. This boron-enriched **streptavidin** retained both full **biotin**-binding ability and **tetrameric** structure, suggesting that the conjugation of BSH has little, if any, effect on the fundamental properties of **streptavidin.** This boron-enriched **streptavidin** should be very useful as a component of targetable boron carriers for neutron capture therapy of cancer. For example, a monoclonal antibody against a tumor-associated antigen can be attached tightly to the boron-enriched **streptavidin** upon simple **biotinylation**, and the resulting conjugate could be used to target boron to tumor cells on which the tumor-associated antigen is overexpressed.
ST **streptavidin** boron deriv neutron capture therapy antitumor
IT Antitumor agents
(boron-enriched **streptavidin** for neutron capture therapy of cancer)
IT **Molecular cloning**
(cysteine stretch-containing **streptavidin** preparation by; boron-enriched **streptavidin** for neutron capture therapy of cancer)
IT Radiotherapy
(neutron capture; boron-enriched **streptavidin** for neutron

capture therapy of cancer)
IT **9013-20-1P, Streptavidin**
RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(Stv-28 variant; boron-enriched **streptavidin** for neutron capture therapy of cancer)
IT 206058-62-0DP, **fusion** protein with **streptavidin**, reaction product with bis(maleimidopropionyl-2-hydroxy-1,3-propanediamine and borocaptate
RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(boron-enriched **streptavidin** for neutron capture therapy of cancer)
IT 133839-11-9 144885-51-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(boron-enriched **streptavidin** for neutron capture therapy of cancer)
RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Argarana, C; Nucleic Acids Res 1986, V14, P1871 HCAPLUS
(2) Barth, R; Cancer Inv 1996, V14, P534 HCAPLUS
(3) Barth, R; Mol Chem Neuropathol 1994, V21, P139 HCAPLUS
(4) Bayer, E; Methods Biochem Anal 1980, V26, P1 HCAPLUS
(5) Chaiet, L; Antimicrob Agents Chemother 1963, V3, P28
(6) Chaiet, L; Arch Biochem Biophys 1964, V106, P1 MEDLINE
(7) Coderre, J; Radiat Res 1999, V151, P1 HCAPLUS
(8) Gahbauer, R; Recent Results Cancer Res 1998, V150, P183 MEDLINE
(9) Green, N; Adv Protein Chem 1970, V29, P85
(10) Green, N; Methods Enzymol 1990, V184, P51 HCAPLUS
(11) Gurd, F; Methods Enzymol 1967, V11, P532 HCAPLUS
(12) Gurd, F; Methods Enzymol 1972, V25, P424 HCAPLUS
(13) Hawthorne, M; Angew Chem Int Ed Engl 1993, V32, P950
(14) Hawthorne, M; Mol Med Today 1998, V4, P174 HCAPLUS
(15) Hendrickson, W; Proc Natl Acad Sci U S A 1989, V86, P2190 HCAPLUS
(16) Hermanson, G; Bioconjugate Techniques 1995
(17) Hofmann, K; Proc Natl Acad Sci U S A 1980, V77, P4666 HCAPLUS
(18) Ruegg, U; Methods Enzymol 1977, V47, P111 HCAPLUS
(19) Sano, T; Bio Technology 1993, V11, P201 HCAPLUS
(20) Sano, T; Biochem Biophys Res Commun 1991, V176, P571 HCAPLUS
(21) Sano, T; Escherichia coli Proc Natl Acad Sci U S A 1990, V87, P142 HCAPLUS
(22) Sano, T; J Biol Chem 1995, V270, P28204 HCAPLUS
(23) Schagger, H; Anal Biochem 1987, V166, P368 MEDLINE
(24) Soloway, A; Chem Rev 1998, V98, P1515 HCAPLUS
(25) Soloway, A; J Neuro-Oncol 1997, V33, P9 MEDLINE
(26) Studier, F; Methods Enzymol 1990, V185, P60 HCAPLUS
(27) Tamat, S; Anal Chem 1987, V59, P2161 HCAPLUS
(28) Weber, P; Science 1989, V243, P85 HCAPLUS
(29) Wei, R; Methods Enzymol 1970, V18A, P424
(30) Weston, P; Biochim Biophys Acta 1980, V612, P40 HCAPLUS
(31) Wilchek, M; Anal Biochem 1988, V171, P1 HCAPLUS
(32) Wilchek, M; Methods in Enzymology 1990, V184
(33) Wong, S; Chemistry of Protein Conjugation and Cross-linking 1991
IT **9013-20-1P, Streptavidin**
RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(Stv-28 variant; boron-enriched **streptavidin** for neutron capture therapy of cancer)
RN 9013-20-1 HCAPLUS
CN Streptavidin (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L89 ANSWER 6 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1998:630399 HCAPLUS
DN 129:331034
ED Entered STN: 07 Oct 1998
TI Tight-**binding** **streptavidin** ligands from a cyclic **peptide** library
AU Zang, Xu; Yu, Zhiguang; Chu, Yen-Ho
CS Department Chemistry, The Ohio State University, Columbus, OH, 43210, USA
SO Bioorganic & Medicinal Chemistry Letters (1998), 8(17), 2327-2332
CODEN: BMCLE8; ISSN: 0960-894X
PB Elsevier Science Ltd.
DT Journal
LA English
CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 15
AB During the screening of a soluble library of cyclo(Ala-**X**-**X**-**X**-**X**-Ala-**Glu**)-**Lys**-NH2 (**X** = **His**, **Pro**, **Gln**, **Tyr**, **GLy**, **Phe**, Asp, Ile), cyclic **peptide** cyclo(Ala-**His**-**Pro**-**Gln**-**Phe**-**Pro**-Ala-**Glu**)-**Lys**-NH2 was identified as a tight-**binding** ligand (IC50 = 128 nM) and found to **bind** 1000-fold more tightly than its linear **peptide** to **streptavidin**. The results of this study suggest that library screening of conformationally constrained cyclic **peptides** can be an effective means for the discovery of high affinity ligands.
ST **cyclopeptide** combinatorial library prepn **streptavidin** **binding**
IT **Peptides**, preparation
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(cyclic; preparation and **streptavidin** **binding** of **cyclopeptide** combinatorial library)
IT **Peptide** library
(preparation and **streptavidin** **binding** of **cyclopeptide** combinatorial library)
IT 191417-93-3P 215120-53-9P 215120-55-1P 215120-56-2P 215120-57-3P 215120-60-8P 215120-61-9DP, **cyclooctapeptide** combinatorial library containing
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation and **streptavidin** **binding** of **cyclopeptide** combinatorial library)
IT **9013-20-1**, **Streptavidin**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(preparation and **streptavidin** **binding** of **cyclopeptide** combinatorial library)
RE.CNT 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) An, H; J Org Chem 1997, V62, P5156 HCAPLUS
(2) Bach, A; J Am Chem Soc 1994, V116, P3207 HCAPLUS
(3) Budde, R; Int J Pharmacogn 1995, V33(Suppl), P27
(4) Burger, M; J Org Chem 1995, V60, P7382 HCAPLUS
(5) Caparon, M; Mol Diversity 1996, V1, P241 HCAPLUS
(6) Chen, J; Lett Pept Sci 1996, V3, P17 HCAPLUS
(7) Colas, P; Nature (London) 1996, V380, P548 HCAPLUS
(8) Delvin, J; High Throughput Screening:the Discovery of Bioactive Substances 1997
(9) Devlin, J; Science 1990, V249, P404 HCAPLUS
(10) Domingo, G; Int J Pept Protein Res 1995, V46, P79 HCAPLUS
(11) Eichler, J; Mol Diversity 1996, V1, P233 HCAPLUS

(12) Giebel, L; Biochemistry 1995, V34, P15430 HCAPLUS
(13) Gissel, B; J Pept Sci 1995, V1, P217 HCAPLUS
(14) Gray, N; Tetrahedron Lett 1997, V38, P1161 HCAPLUS
(15) Green, N; Methods Enzymol 1990, V184, P51 HCAPLUS
(16) Kamber, B; Helv Chim Acta 1980, V63, P899 HCAPLUS
(17) Kates, S; Peptides:Design, Synthesis, and Biological Activity 1994, P39 HCAPLUS
(18) Katz, B; Biochemistry 1995, V34, P15421 HCAPLUS
(19) Katz, B; J Am Chem Soc 1995, V117, P8541 HCAPLUS
(20) Katz, B; J Am Chem Soc 1996, V118, P2535 HCAPLUS
(21) Katz, B; J Am Chem Soc 1996, V118, P7914 HCAPLUS
(22) Kay, B; Gene 1993, V128, P59 HCAPLUS
(23) Lam, K; Nature (London) 1991, V354, P82 HCAPLUS
(24) March, D; J Am Chem Soc 1996, V118, P3375 HCAPLUS
(25) McBride, J; J Mol Biol 1996, V259, P819 HCAPLUS
(26) Morgan, B; J Am Chem Soc 1994, V116, P3251 HCAPLUS
(27) Nefzi, A; Chem Rev 1997, V97, P449 HCAPLUS
(28) Nefzi, A; Tetrahedron Lett 1997, V38, P931 HCAPLUS
(29) Ostergaard, S; J Peptide Sci 1997, V3, P123 MEDLINE
(30) O'Neil, K; Proteins:Struct, Funct, Genet 1992, V14, P509 HCAPLUS
(31) Sim, M; J Org Chem 1997, V62, P3230 HCAPLUS
(32) Spatola, A; Combinatorial Peptide and Non-Peptide Libraries 1996, P327 HCAPLUS
(33) Spatola, A; J Med Chem 1996, V39, P3842 HCAPLUS
(34) Tumelty, D; J Chem Soc, Chem Commun 1994, V9, P1067
(35) Weber, P; Biochemistry 1992, V31, P9350 HCAPLUS
(36) Weber, P; J Am Chem Soc 1994, V116, P2717 HCAPLUS
(37) Wiesmuller, K; Combinatorial Peptide and Non-Peptide Libraries 1996, P203 HCAPLUS
(38) Wilson, S; Combinatorial Chemistry:Synthesis and Application 1997
(39) Wrihgt, R; Bio/Technology 1995, V13, P165
(40) Xiao, X; J Org Chem 1997, V62, P6029 HCAPLUS
(41) Yu, Z; Anal Chem 1997, V69, P4515 HCAPLUS
(42) Yu, Z; Bioorg Med Chem Lett 1997, V7, P95 HCAPLUS
(43) Yu, Z; Tetrahedron Lett 1998, V39, P1 HCAPLUS
(44) Yu, Z; Unpublished results
(45) Zang, X; Unpublished result

IT **9013-20-1, Streptavidin**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(preparation and **streptavidin binding** of **cyclopeptide** combinatorial library)
RN 9013-20-1 HCAPLUS
CN Streptavidin (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L89 ANSWER 7 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN
AN **1998:246661** HCAPLUS
DN **128:291777**
ED Entered STN: 30 Apr 1998
TI **Streptavidin muteins** for use in protein isolation, purification or determination
IN Skerra, Arne; Voss, Selma
PA Institut fuer Bioanalytik G.m.b.H. Goettingen, Germany
SO Ger. Offen., 14 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM C07K014-245
CC 6-3 (General Biochemistry)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI	DE 19641876	A1	19980416	DE 1996-19641876	19961010
	EP 835934	A2	19980415	EP 1997-117504	19971009
	EP 835934	A3	19990901		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
PRAI	DE 1996-19641876	A	19961010		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
DE 19641876	ICM	C07K014-245
DE 19641876	ECLA	C07K014/36
EP 835934	ECLA	C07K014/36

AB **Streptavidin muteins** containing at least one substitution mutation in positions 44-53 and having a higher **binding** affinity for **Trp-X-His-Pro-Gln-Phe-Y-Z** (**X**=amino acid; **Y**, **Z**=**Gly** or **Y**=**Glu** and **Z**=**Arg**, **Lys**) than wild-type **streptavidin** are disclosed. Nucleic acids encoding the **streptavidin mutein**, vectors containing said nucleic acids, cells transformed with the vectors, and use of the **muteins** for isolation, purification or determination of proteins are further disclosed. [Val-44,Thr-45,**Arg**-47]- and [Ile-44,**Gly**-45,**Arg**-47] 13-139-**streptavidin** were prepared with **recombinant** Escherichia coli. The affinity of such **muteins** for the **peptide** ligands ABRHPQFGG and WSHPQFEK is increased at least 10-fold relative to wild-type **streptavidin.**

ST **streptavidin mutein** peptide ligand protein **fusion**; protein purifn detn **streptavidin mutein**

IT **Molecular cloning**
(of **streptavidin mutein**-encoding nucleic acids; **streptavidin muteins** for use in protein isolation, purification or determination)

IT Immobilization, biochemical
(**streptavidin muteins** for use in protein isolation, purification or determination)

IT Proteins, general, analysis
RL: ANT (Analyte); PUR (Purification or recovery); ANST (Analytical study); PREP (Preparation)
(**streptavidin muteins** for use in protein isolation, purification or determination)

IT Escherichia coli
(**streptavidin muteins** preparation with **recombinant**; **streptavidin muteins** for use in protein isolation, purification or determination)

IT **206012-76-2P 206012-77-3P**
RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(amino acid sequence; **streptavidin muteins** for use in protein isolation, purification or determination)

IT 147395-23-1 205938-74-5
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(binding to **streptavidin** of; **streptavidin muteins** for use in protein isolation, purification or determination)

IT **9013-20-1DP, Streptavidin, muteins**
RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(**streptavidin muteins** for use in protein isolation, purification or determination)

IT **206012-76-2P 206012-77-3P**

RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(amino acid sequence; **streptavidin muteins** for use in protein isolation, purification or determination)
RN 206012-76-2 HCAPLUS
CN 13-139-Streptavidin [44-valine,45-threonine,47-arginine] (Streptomyces avidinii subunit) (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 206012-77-3 HCAPLUS
CN 13-139-Streptavidin [44-isoleucine,45-glycine,47-arginine] (Streptomyces avidinii subunit) (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **9013-20-1DP, Streptavidin, muteins**
RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(**streptavidin muteins** for use in protein isolation, purification or determination)
RN 9013-20-1 HCAPLUS
CN Streptavidin (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L89 ANSWER 8 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1994:550523 HCAPLUS
DN 121:150523
ED Entered STN: 01 Oct 1994
TI A **peptide** that **binds streptavidin** and its use in **fusion** proteins
IN Skerra, Arne; Schmidt, Thomas
PA Klaus Kuehn Konstruktion GmbH und Co. KG, Germany
SO Ger. Offen., 40 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM C07K007-06
ICS C07K015-04; C07K003-20; C12N015-63; C12Q001-42; G01N033-68
ICA C12N015-62; C12N015-70
ICI C12N001-21, C12R001-19
CC 3-1 (Biochemical Genetics)
Section cross-reference(s): 9
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 4237113	A1	19940505	DE 1992-4237113	19921103 <--
	GB 2272698	A1	19940525	GB 1993-22501	19931101 <--
	GB 2272698	B2	19960710		
	JP 07076596	A2	19950320	JP 1993-274163	19931102 <--
	FR 2697525	A1	19940506	FR 1993-13066	19931103 <--
	FR 2697525	B1	19970404		
	US 5506121	A	19960409	US 1993-148675	19931103 <--
PRAI	DE 1992-4237113	A	19921103 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
DE 4237113	ICM	C07K007-06
	ICS	C07K015-04; C07K003-20; C12N015-63; C12Q001-42; G01N033-68
	ICA	C12N015-62; C12N015-70
	ICI	C12N001-21, C12R001-19

GB 2272698 ECLA C12N015/62 <--
FR 2697525 ECLA C12N015/62 <--
US 5506121 ECLA C12N015/62 <--

AB The **peptide Trp-X-His-Pro -Gln-Phe-Y-Z** (**X**= any amino acid, **Y=Z=Gly**, or **Y= Glu**; **Z=Arg**, **Lys**) **binds streptavidin** and can be used as an affinity label in the purification of proteins manufactured in a heterologous host. Constructs encoding an Ig variable region with one of these **peptides** as a C-terminal extension were prepared and expressed in Escherichia coli by standard methods. Synthesis of a **streptavidin-binding** activities was demonstrated and the protein purified by **streptavidin** affinity chromatog. with the protein displaced from **streptavidin** with **biotin** or an analog or one of the **peptides** of the invention. An expression vector utilizing this **peptide** and the ompA signal sequence to direct secretion of the protein was constructed and used to manufacture the soluble domain of the LDL receptor.

ST **streptavidin binding peptide** affinity label

IT Deoxyribonucleic acid sequences
(for Ig variable region D1.3 Fv with C-terminal **streptavidin-binding peptide** of **human**)

IT Protein sequences
(of Ig variable region D1.3 Fv with C-terminal **streptavidin-binding peptide** of **human**)

IT Plasmid and Episome
(pASK60-Strep, expression vector for manufacture of heterologous proteins in Escherichia coli, ompA signal sequence and sequence encoding **streptavidin-binding peptide** in, secretion and affinity purification in relation to)

IT **Peptides**, uses
RL: USES (Uses)
(**streptavidin-binding**, as affinity label)

IT Chromatography, column and liquid
(affinity, for purification of proteins, **streptavidin-binding peptide** as affinity label in)

IT Gene
RL: BIOL (Biological study)
(**chimeric**, for Ig variable region D1.3 Fv with C-terminal **streptavidin-binding peptide**, expression in Escherichia coli of)

IT **Proteins, specific or class**
RL: BIOL (Biological study)
(**fusion products**, containing **streptavidin-binding peptide**, affinity purification of, manufacture of proteins in heterologous hosts in relation to)

IT Gene, microbial
RL: BIOL (Biological study)
(ompA, signal sequence, in expression cassette for synthesis and secretion and **streptavidin** affinity purification of heterologous proteins in relation to)

IT Genetic element
RL: BIOL (Biological study)
(signal sequence, of ompA gene, in expression cassette for synthesis and secretion and **streptavidin** affinity purification of heterologous proteins in relation to)

IT 157352-54-0 157352-64-2
RL: PRP (Properties)
(amino acid sequence of)

IT 157352-56-2P 157352-57-3P 157352-58-4P 157352-59-5P 157352-66-4P 157352-67-5P
RL: PRP (Properties); PREP (Preparation)
(amino acid sequence of, expression in Escherichia coli of gene for and

affinity purification of)
IT 157352-53-9
RL: USES (Uses)
(nucleotide sequence and expression in Escherichia coli of, affinity purification with immobilized **streptavidin** of gene product in relation to)
IT 157352-60-8 157352-61-9 157352-62-0 157352-63-1 157352-68-6
157352-69-7
RL: USES (Uses)
(nucleotide sequence and expression in Escherichia coli of, **streptavidin** affinity purification of gene product in relation to)
IT 157352-55-1 157352-65-3
RL: PRP (Properties); BIOL (Biological study)
(nucleotide sequence of)
IT 157352-70-0 157352-71-1
RL: PRP (Properties); BIOL (Biological study)
(nucleotide sequence of, synthesis and secretion and **streptavidin** affinity purification of heterologous proteins in relation to)
IT **9013-20-1**, **Streptavidin**
RL: USES (Uses)
(**peptides binding**, as affinity labels)
IT 156771-48-1 156771-49-2 156771-50-5
RL: USES (Uses)
(**streptavidin binding peptide**, as affinity label in protein purification)
IT **9013-20-1**, **Streptavidin**
RL: USES (Uses)
(**peptides binding**, as affinity labels)
RN 9013-20-1 HCAPLUS
CN Streptavidin (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L89 ANSWER 9 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN
AN **1994:404699** HCAPLUS
DN **121:4699**
ED Entered STN: 09 Jul 1994
TI Secretion of **streptavidin** from Bacillus subtilis
AU Nagarajan, Vasantha; Ramaley, Robert; Albertson, Helene; Chen, Mario
CS Cent. Res. Dev. Div., E. I. duPont de Nemours Co., Wilmington, DE, 19880-0328, USA
SO Applied and Environmental Microbiology (**1993**), 59(11), 3894-8
CODEN: AEMIDF; ISSN: 0099-2240
DT Journal
LA English
CC 10-2 (Microbial, Algal, and Fungal Biochemistry)
Section cross-reference(s): 3
AB **Streptavidin** is an extracellular **tetrameric** protein produced by Streptomyces avidinii. A series of **hybrid** gene **fusions** consisting of Bacillus signal peptide coding regions **fused** to the mature **streptavidin** sequence was constructed. B. subtilis strains harboring these plasmids accumulate a **tetrameric streptavidin** in the growth medium. The properties of the **streptavidin** produced by B. subtilis are similar to those of the **streptavidin** produced by S. avidinii. B. subtilis strains carrying the various **fusions** can be grown to a high cell d. in a **biotin**-free medium. Thus, B. subtilis represents an alternate host system for the production of **streptavidin**.
ST **streptavidin** secretion Bacillus
IT Gene, microbial
RL: PROC (Process)

(for **streptavidin**, of Streptomyces avidinii, **cloning** of, in Bacillus subtilis)
IT **Molecular cloning**
(of **streptavidin** gene, of Streptomyces avidinii, in Bacillus subtilis)
IT Streptomyces avidinii
(**streptavidin** gene of, **cloning** of, in Bacillus subtilis)
IT Bacillus subtilis
(**streptavidin** secretion by, after mol. **cloning**)
IT Biological transport
(secretion, of **streptavidin** from Bacillus subtilis after mol. **cloning**)
IT **9013-20-1, Streptavidin**
RL: PROC (Process)
(secretion of, from Bacillus subtilis after mol. **cloning**)
IT **9013-20-1, Streptavidin**
RL: PROC (Process)
(secretion of, from Bacillus subtilis after mol. **cloning**)
RN 9013-20-1 HCAPLUS
CN Streptavidin (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L89 ANSWER 10 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN
AN **1990:548338** HCAPLUS
DN **113:148338**
ED Entered STN: 27 Oct 1990
TI Random **peptide** libraries: a source of specific protein **binding** molecules
AU Devlin, James J.; Panganiban, Lucy C.; Devlin, Patricia E.
CS Dep. Mol. Biol., Cetus Corp., Emeryville, CA, 94608, USA
SO Science (Washington, DC, United States) (**1990**), 249(4967), 404-6
CODEN: SCIEAS; ISSN: 0036-8075
DT Journal
LA English
CC 9-15 (Biochemical Methods)
Section cross-reference(s): 6
AB Libraries of random **peptide** sequences were constructed and screened to identify **peptides** that specifically **bind** to proteins. In one of these about 2 + 107 different 15-residue **peptide** sequences were expressed on the surface of the coliphage M13. Each phage encoded a single random sequence and expressed it as a **fusion** complex with pIII, a minor coat protein present at five mols. per phage. Phage encoding nine different **streptavidin-binding peptide** sequences were isolated from this library. The core consensus sequence was **His-Pro-Gln** and **binding** of these phage to **streptavidin** was inhibited by **biotin.** This type of library makes it possible to identify **peptides** that **bind** to proteins (or other macromols.) that have no previously known affinity for **peptides.**
ST **peptide** library protein **binding** mol
IT Proteins, biological studies
RL: BIOL (Biological study)
(**binding** of, to **peptides**, random **peptide** libraries in prediction of)
IT **Peptides**, biological studies
RL: BIOL (Biological study)
(**binding** of, to proteins, random **peptide** libraries in prediction of)
IT Antigens
RL: ANST (Analytical study)
(epitopes, peptide library of, peptide ligand searching with)

IT Virus, bacterial
(M13, coat protein pIII gene of, expression of, construction of epitope library for anal. of)
IT Proteins, specific or class
RL: ANST (Analytical study)
(P.IIi, **streptavidin** binding proteins **fusion** with, of phage M13, construction of epitope library for anal. of)
IT Gene and Genetic element, microbial
RL: ANST (Analytical study)
(III, for coat protein, of phage M13, construction of epitope library for anal. of)

L89 ANSWER 11 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN
AN **1987:14227** HCAPLUS
DN **106:14227**
ED Entered STN: 24 Jan 1987
TI **Streptavidin**-like polypeptides
IN Meade, Harry M.; Garwin, Jeffrey L.
PA Biogen N. V., USA
SO PCT Int. Appl., 56 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C07H021-04
ICS C12N001-00; C07K015-00; C12P021-00; C12P021-02
CC 3-4 (Biochemical Genetics)
Section cross-reference(s): 9, 10
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 8602077	A1	19860410	WO 1985-US1901	19851001 <--
	W: JP				
	RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
	EP 198015	A1	19861022	EP 1985-905158	19851001 <--
	EP 198015	B1	19910828		
	EP 198015	B2	19950719		
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	JP 62500700	T2	19870326	JP 1985-504502	19851001 <--
	AT 66691	E	19910915	AT 1985-905158	19851001 <--
	US 5168049	A	19921201	US 1988-185329	19880421 <--
	US 5272254	A	19931221	US 1991-800158	19911127 <--
	JP 08228791	A2	19960910	JP 1996-47976	19960208 <--
PRAI	US 1984-656873	A	19841002 <--		
	EP 1985-905158	A	19851001 <--		
	WO 1985-US1901	W	19851001 <--		
	US 1988-185329	A3	19880421 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 8602077	ICM	C07H021-04
	ICS	C12N001-00; C07K015-00; C12P021-00; C12P021-02

AB A DNA fragment encoding **streptavidin**-like polypeptide was isolated from a cosmid library of Streptomyces avidinii using a 14-base **hybridization** probe corresponding to a portion of the amino terminus of a com. **streptavidin.** The **streptavidin** -like polypeptide gene was **cloned** and expressed, and its sequence determined The gene can be used to create **fusion** proteins consisting of a portion of the **streptavidin**-like polypeptide **fused** to a desired protein. For example, a DNA fragment encoding α-antitrypsin was inserted into pSA307 containing the **streptavidin**-like polypeptide gene at a restriction site near and before the stop codon of the gene. The Escherichia coli transformants produced the desired **hybrid** protein by secreting it through the

cell membrane. The **fused** proteins can be purified using **biotin** and then proteolytically cleaved into individual proteins if desired.

ST **streptavidin fusion** protein gene **cloning**; sequence **streptavidin** like protein Streptomyces

IT Plasmid and Episome
(PSAT7026, Streptomyces avidinii **streptavidin**-like protein-tissue plasminogen activator **fusion** gene on, expression in S. lividans of)

IT Interferons
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(Streptomyces avidinii **streptavidin**-like protein **fused** with human and animal, **cloning** and expression of gene for)

IT Animal cell
(**cloning** and expression in human, of **streptavidin** -like protein gene and **fusion** protein gene)

IT Animal
Plant
Pseudomonas
(**cloning** and expression in, of **streptavidin**-like protein gene and **fusion** protein gene)

IT Escherichia coli
Eumycetes
Streptomyces
Streptomyces lividans
Yeast
(**cloning** and expression in, of **streptavidin**-like protein gene of Streptomyces avidinii and **fusion** protein gene)

IT Gene and Genetic element, microbial
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(for **streptavidin**-like protein, of Streptomyces avidinii, **cloning** and expression of, in Escherichia coli and S. lividans)

IT Eukaryote
Prokaryote
(gene control region of DNA of, **recombinant** DNA containing **streptavidin**-like protein gene and)

IT Virus
(gene control regions of, **recombinant** DNA containing **streptavidin**-like protein gene and)

IT Antigens
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(of foot-and-mouth disease and hepatitis B viruses, **streptavidin**-like protein **fused** with, **cloning** and expression of genes for)

IT **Molecular cloning**
(of **streptavidin**-like protein gene, of Streptomyces avidinii, in Escherichia coli and S. lividans)

IT Plasmid and Episome
(pSA304, **streptavidin**-like protein gene of Streptomyces avidinii on, expression of, in Escherichia coli)

IT Plasmid and Episome
(pSA307, **streptavidin**-like protein gene of Streptomyces avidinii on, expression of, in Escherichia coli)

IT Plasmid and Episome
(pSA3721, **streptavidin**-like protein gene of Streptomyces avidinii on, expression of, in S. lividans)

IT Plasmid and Episome
(pSAT9724, Streptomyces avidinii **streptavidin**-like

protein-tissue plasminogen activator **fusion** gene on, expression in Escherichia coli of)

IT Deoxyribonucleic acid sequences
(**streptavidin**-like protein-specifying, of Streptomyces avidinii, complete)

IT Bacteria
(bacilli, **cloning** and expression in, of **streptavidin** -like protein gene and **fusion** protein gene)

IT Virus, bacterial
(filamentous, gene control region of DNA of, **recombinant** DNA containing **streptavidin**-like protein gene and)

IT Virus, animal
(foot-and-mouth disease, antigens of, **streptavidin**-like protein **fused** with, **cloning** and expression of genes for)

IT Bacteria
(gram-pos., **cloning** and expression in, of **streptavidin**-like protein gene and **fusion** protein gene)

IT Virus, animal
(hepatitis B, antigens of, **streptavidin**-like protein **fused** with, **cloning** and expression of genes for)

IT Virus, bacterial
(lambda, gene operator and promoter of, **recombinant** DNA containing **streptavidin**-like protein gene and)

IT **101841-11-6**, **Streptavidin** (Streptomyces avidinii subunit precursor)
RL: PRP (Properties)
(amino acid sequence of)

IT 9041-92-3D, **fusion** products with **streptavidin**-like protein 11096-26-7D, Erythropoietin, **fusion** products with **streptavidin**-like protein
RL: PRP (Properties)
(**cloning** and expression of gene for)

IT **101840-65-7**, DNA (Streptomyces avidinii **streptavidin** gene)
RL: PRP (Properties); BIOL (Biological study)
(nucleotide sequence of)

IT 9002-72-6D, Somatotropin, **fusion** products with **streptavidin**-like protein
RL: PRP (Properties)
(of human and animal, **cloning** and expression of gene for)

IT 9004-10-8D, Insulin, **fusion** products with **streptavidin** -like protein
RL: PRP (Properties)
(of human, **cloning** and expression of gene for)

IT **9013-20-1**, **Streptavidin**
RL: PRP (Properties)
(protein resembling, of Streptomyces avidinii, **cloning** and expression of gene and **fusion** gene for, in Escherichia coli and S. lividans)

IT **58-85-5 58-85-5D**, analogs and derivs.
RL: PRP (Properties)
(**streptavidin**-like protein and **fusion** protein purification with)

IT 105913-11-9, Plasminogen activator
RL: PRP (Properties)
(**streptavidin**-like protein of Streptomyces avidinii **fused** with, **cloning** and expression of gene for)

IT **101841-11-6**, **Streptavidin** (Streptomyces avidinii subunit precursor)
RL: PRP (Properties)
(amino acid sequence of)

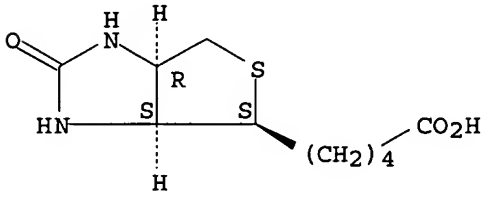
RN 101841-11-6 HCAPLUS
CN Streptavidin (Streptomyces avidinii subunit precursor) (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **101840-65-7**, DNA (Streptomyces avidinii **streptavidin** gene)
RL: PRP (Properties); BIOL (Biological study)
(nucleotide sequence of)
RN 101840-65-7 HCAPLUS
CN DNA (Streptomyces avidinii streptavidin gene) (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **9013-20-1**, **Streptavidin**
RL: PRP (Properties)
(protein resembling, of Streptomyces avidinii, **cloning** and expression of gene and **fusion** gene for, in Escherichia coli and S. lividans)
RN 9013-20-1 HCAPLUS
CN Streptavidin (8CI, 9CI) (CA INDEX NAME)

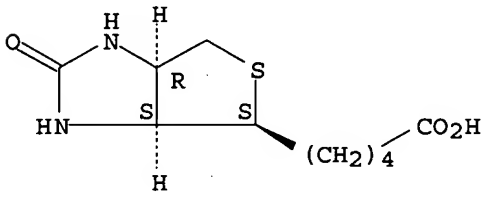
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **58-85-5 58-85-5D**, analogs and derivs.
RL: PRP (Properties)
(**streptavidin**-like protein and **fusion** protein purification with)
RN 58-85-5 HCAPLUS
CN 1H-Thieno[3,4-d]imidazole-4-pentanoic acid, hexahydro-2-oxo-, (3aS,4S,6aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



RN 58-85-5 HCAPLUS
CN 1H-Thieno[3,4-d]imidazole-4-pentanoic acid, hexahydro-2-oxo-, (3aS,4S,6aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



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L97 ANSWER 1 OF 6 HCAPLUS COPYRIGHT 2005 ACS on STN
AN **1997:779756** HCAPLUS
DN **128:125050**

ED Entered STN: 13 Dec 1997
TI Mutagenesis of a flexible loop in **streptavidin** leads to higher affinity for the Strep-tag II peptide and improved performance in **recombinant** protein purification
AU Voss, Selma; Skerra, Arne
CS Institut fur Biochemie, Technische Hochschule, Darmstadt, D-64287, Germany
SO Protein Engineering (**1997**), 10(8), 975-982
CODEN: PRENE9; ISSN: 0269-2139
PB Oxford University Press
DT Journal
LA English
CC 6-3 (General Biochemistry)
AB The Strep-tag, an artificial **peptide** ligand of **streptavidin**, has gained use as an affinity handle for the purification and detection of **recombinant fusion** proteins. In an attempt to achieve tighter complexation of the **peptide**, **streptavidin** was engineered and the amino acid residues 44-47 in the flexible loop from 44 to 53, which is close to the **binding** site, were subjected to random mutagenesis. A **fusion** between alkaline phosphatase and the Strep-tag II sequence, an improved version of the Strep-tag, was constructed as a mol. probe for **peptide binding.** By means of a filter-sandwich assay, two **streptavidin** mutants with significantly stronger **binding** activity for the Strep-tag II were thus identified from a library of Escherichia coli colonies. Both in an ELISA with the alkaline phosphatase **fusion** and in a fluorescence titration experiment with the synthetic Strep-tag II **peptide**, which carried an anthraniloyl group as chromophore, their affinities were found to be higher by more than one order of magnitude compared with wild-type **streptavidin.** The nature of the amino acid exchanges and an enhanced electrophoretic mobility of the **streptavidin tetramers** suggest an altered loop conformation to be part of the optimized **binding** mechanism. When one of the **streptavidin** mutants was immobilized on a chromatog. column it exhibited clearly improved performance in the purification of Strep-tag II **fusion** proteins, and desthiobiotin turned out to be a suitable reagent for mild competitive elution.
ST **streptavidin** mutant streptagII **peptide binding** ; affinity chromatog **streptavidin** mutant streptagII **fusion**
IT Affinity chromatography
Molecular association
Protein sequences
(mutagenesis of flexible loop in **streptavidin** leads to higher affinity for Strep-tag II peptide and improved performance in **recombinant** protein purification)
IT **202077-38-1P 202077-39-2P**
RL: BPN (Biosynthetic preparation); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(amino acid sequence; mutagenesis of flexible loop in **streptavidin** leads to higher affinity for Strep-tag II peptide and improved performance in **recombinant** protein purification)
IT 533-48-2, Desthiobiotin
RL: NUU (Other use, unclassified); USES (Uses)
(for elution of strep-tag II **fusion** proteins from **streptavidin** affinity columns; mutagenesis of flexible loop in **streptavidin** leads to higher affinity for Strep-tag II peptide and improved performance in **recombinant** protein purification)
IT **9013-20-1DP, Streptavidin**, substitution mutants
RL: BPN (Biosynthetic preparation); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(mutagenesis of flexible loop in **streptavidin** leads to higher

affinity for Strep-tag II peptide and improved performance in **recombinant** protein purification)

IT 201983-17-7DP, **fusion** proteins containing
RL: PEP (Physical, engineering or chemical process); PUR (Purification or recovery); PREP (Preparation); PROC (Process)
(mutagenesis of flexible loop in **streptavidin** leads to higher affinity for Strep-tag II peptide and improved performance in **recombinant** protein purification)

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Bachmann, B; Bacteriol Rev 1972, V36, P525 MEDLINE
(2) Ellison, D; Protein Sci 1995, V4, P1337 HCAPLUS
(3) Green, M; Adv Protein Chem 1975, V29, P85
(4) Heller, S; Development 1995, V121, P2681 HCAPLUS
(5) Kleymann, G; Bio/Technology 1995, V13, P155 HCAPLUS
(6) Kleymann, G; J Histochem Cytochem 1995, V43, P607 HCAPLUS
(7) Kurzban, G; J Biol Chem 1991, V266, P14470 HCAPLUS
(8) Meldal, M; Anal Biochem 1991, V195, P141 HCAPLUS
(9) Muller, H; Biochemistry 1994, V33, P14126 MEDLINE
(10) Ostermeier, C; Nature Struct Biol 1995, V2, P842 HCAPLUS
(11) Sambrook, J; Molecular Cloning A Laboratory Manual 2nd edn 1989
(12) Schmidt, F; Eur J Biochem 1994, V219, P855 HCAPLUS
(13) Schmidt, T; J Chromatogr A 1994, V676, P337 HCAPLUS
(14) Schmidt, T; J Mol Biol 1996, V255, P753 HCAPLUS
(15) Schmidt, T; Protein Engng 1993, V6, P109 HCAPLUS
(16) Skerra, A; Anal Biochem 1991, V196, P151 HCAPLUS
(17) Skerra, A; Gene 1994, V151, P131 HCAPLUS
(18) Skerra, A; Nucleic Acids Res 1992, V20, P3551 HCAPLUS
(19) Smith, G; Curr Opin Biotechnol 1991, V2, P668 HCAPLUS
(20) Sowadski, J; J Mol Biol 1985, V186, P417 HCAPLUS
(21) Sutamihardja, T; Chem Pharm Bull 1972, V20, P2694 HCAPLUS
(22) Tsiotis, G; Eur J Biochem 1995, V231, P823 HCAPLUS
(23) Weber, P; Science 1989, V243, P85 HCAPLUS
(24) Wu, P; Anal Biochem 1994, V218, P1 HCAPLUS
(25) Yanisch-Perron, C; Gene 1985, V33, P103 HCAPLUS
(26) Zopf, D; Nature 1990, V346, P87

IT **202077-38-1P 202077-39-2P**
RL: BPN (Biosynthetic preparation); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(amino acid sequence; mutagenesis of flexible loop in **streptavidin** leads to higher affinity for Strep-tag II peptide and improved performance in **recombinant** protein purification)

RN 202077-38-1 HCAPLUS
CN Streptavidin [44-valine,45-threonine,47-arginine] (Streptomyces avidinii subunit) (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 202077-39-2 HCAPLUS
CN Streptavidin [44-isoleucine,45-glycine,47-arginine] (Streptomyces avidinii subunit) (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT **9013-20-1DP, Streptavidin**, substitution mutants
RL: BPN (Biosynthetic preparation); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(mutagenesis of flexible loop in **streptavidin** leads to higher affinity for Strep-tag II peptide and improved performance in **recombinant** protein purification)

RN 9013-20-1 HCAPLUS
CN Streptavidin (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L97 ANSWER 2 OF 6 HCAPLUS COPYRIGHT 2005 ACS on STN
AN **1997:671349** HCAPLUS
DN **128:19140**
ED Entered STN: 23 Oct 1997
TI Glutathione S-transferase can be used as a C-terminal, enzymically active **dimerization** module for a **recombinant** protease inhibitor, and functionally secreted into the periplasm of Escherichia coli
AU Tudyka, Tatjana; Skerra, Arne
CS Technische Hochschule, Institut fur Biochemie, Darmstadt, D-64287, Germany
SO Protein Science (**1997**), 6(10), 2180-2187
CODEN: PRCIEI; ISSN: 0961-8368
PB Cambridge University Press
DT Journal
LA English
CC 3-2 (Biochemical Genetics)
Section cross-reference(s): 7
AB Glutathione S-transferase (GST) from Schistosoma japonicum, which is widely used for the production of **fusion proteins** in the cytoplasm of Escherichia coli, was employed as a functional **fusion** module that effects **dimer** formation of a **recombinant protein** and confers enzymic reporter activity at the same time. For this purpose GST was linked via a flexible spacer to the C-terminus of the thiol-protease inhibitor cystatin, whose **binding** properties for papain were to be studied. The **fusion protein** was **secreted** into the bacterial periplasm by means of the OmpA signal **peptide** to ensure formation of the two disulfide **bonds** in cystatin. The formation of wrong crosslinks in the oxidizing milieu was prevented by replacing three of the four exposed cysteine residues in GST. Using the tetracycline promoter for tightly controlled gene expression the soluble **fusion protein** could be isolated from the periplasmic **protein** fraction. Purification to homogeneity was achieved in one step by means of an affinity column with glutathione agarose. Alternatively, the **protein** was isolated via **streptavidin** affinity chromatog. after the Strep-tag had been appended to its C-terminus. The GST moiety of the **fusion protein** was enzymically active and the kinetic parameters were determined using glutathione and 1-chloro-2,4-dinitrobenzene as substrates. Furthermore, strong **binding** activity for papain was detected in an ELISA. The signal with the cystatin-GST **fusion protein** was much higher than with cystatin itself, demonstrating an avidity effect due to the **dimer** formation of GST. The quaternary structure was further confirmed by chemical crosslinking, which resulted in a specific reaction product with twice the mol. size. Thus, engineered GST is suitable as a moderately sized, **secretion** -competent **fusion** partner that can confer bivalency to a **protein** of interest and promote detection of **binding** interactions even in cases of low affinity.
ST glutathione transferase **dimerization recombinant** protease inhibitor; genetic engineering glutathione transferase cystatin **fusion**; **secretion** Escherichia **cloning** **fusion protein**
IT Schistosoma japonicum
(Schistosoma japonicum glutathione S-transferase can be used as C-terminal, enzymically active **dimerization** module for **recombinant** protease inhibitor, and functionally secreted into periplasm of Escherichia coli)
IT **Fusion proteins (chimeric proteins)**
RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(cystatin-glutathione S-transferase; glutathione S-transferase can be

used as C-terminal, enzymically active **dimerization** module for **recombinant** protease inhibitor, and functionally **secreted** into periplasm of Escherichia coli)

IT **Dimerization**
(**dimerization** effect on **recombinant** cystatin protease inhibitor binding with papain)

IT Gene, animal
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(for cystatin; glutathione S-transferase can be used as C-terminal, enzymically active **dimerization** module for **recombinant** protease inhibitor, and functionally secreted into periplasm of Escherichia coli)

IT Gene, animal
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(for glutathione S-transferase; glutathione S-transferase can be used as C-terminal, enzymically active **dimerization** module for **recombinant** protease inhibitor, and functionally secreted into periplasm of Escherichia coli)

IT Signal peptides
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(gene OmpA; glutathione S-transferase can be used as C-terminal, enzymically active **dimerization** module for **recombinant** protease inhibitor, and functionally secreted into periplasm of Escherichia coli)

IT Porins
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(gene ompA; glutathione S-transferase can be used as C-terminal, enzymically active **dimerization** module for **recombinant** protease inhibitor, and functionally secreted into periplasm of Escherichia coli)

IT Escherichia coli
Genetic engineering
Genetic vectors
Secretion (process)
(glutathione S-transferase can be used as C-terminal, enzymically active **dimerization** module for **recombinant** protease inhibitor, and functionally secreted into periplasm of Escherichia coli)

IT Reporter gene
RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(glutathione S-transferase can be used as C-terminal, enzymically active **dimerization** module for **recombinant** protease inhibitor, and functionally secreted into periplasm of Escherichia coli)

IT Gene, microbial
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(ompA, signal peptide of; glutathione S-transferase can be used as C-terminal, enzymically active **dimerization** module for **recombinant** protease inhibitor, and functionally secreted into periplasm of Escherichia coli)

IT Plasmids
(pTTX6; glutathione S-transferase can be used as C-terminal, enzymically active **dimerization** module for **recombinant** protease inhibitor, and functionally secreted into periplasm of Escherichia coli)

IT Organelle
(periplasm; glutathione S-transferase can be used as C-terminal,

enzymically active **dimerization** module for **recombinant** protease inhibitor, and functionally secreted into periplasm of Escherichia coli)

IT Quaternary structure
(protein; **dimerization** effect on **recombinant** cystatin protease inhibitor binding with papain)

IT 9001-73-4, Papain
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**dimerization** effect on **recombinant** cystatin protease inhibitor binding with papain)

IT 199301-93-4P
RL: BPN (Biosynthetic preparation); PRP (Properties); BIOL (Biological study); PREP (Preparation)
(glutathione S-transferase can be used as C-terminal, enzymically active **dimerization** module for **recombinant** protease inhibitor, and functionally secreted into periplasm of Escherichia coli)

IT 50812-37-8, Glutathione S-transferase 81989-95-9, Cystatin
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(glutathione S-transferase can be used as C-terminal, enzymically active **dimerization** module for **recombinant** protease inhibitor, and functionally secreted into periplasm of Escherichia coli)

IT 199301-92-3
RL: BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(glutathione S-transferase can be used as C-terminal, enzymically active **dimerization** module for **recombinant** protease inhibitor, and functionally secreted into periplasm of Escherichia coli)

RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Anastasi, A; Biochem J 1982, V211, P129
(2) Auerswald, E; Eur J Biochem 1991, V200, P131 HCAPLUS
(3) Auerswald, E; FEBS Lett 1989, V243, P186 HCAPLUS
(4) Battistoni, A; Escherichia coli Protein Exp Purif 1995, V6, P579 HCAPLUS
(5) Bode, W; EMBO J 1988, V7, P2593 HCAPLUS
(6) Brocklehurst, K; Biochem J 1973, V133, P573 HCAPLUS
(7) Crothers, D; Immunochemistry 1972, V9, P341 HCAPLUS
(8) Ducancel, F; Escherichia coli Bio/Technology 1993, V11, P601 HCAPLUS
(9) Fling, S; Anal Biochem 1986, V155, P83 HCAPLUS
(10) Geisselsoder, J; BioTechniques 1987, V5, P786 HCAPLUS
(11) Gill, S; Anal Biochem 1989, V182, P319 HCAPLUS
(12) Habig, W; J Biol Chem 1974, V249, P7130 HCAPLUS
(13) Hill, M; FEBS Lett 1979, V102, P282 HCAPLUS
(14) Lim, K; Protein Sci 1994, V3, P2233 HCAPLUS
(15) Lindahl, P; Biochem J 1992, V286, P165 HCAPLUS
(16) McTigue, M; J Mol Biol 1995, V246, P21 HCAPLUS
(17) Pack, P; Escherichia coli Biochemistry 1992, V31, P1579 HCAPLUS
(18) Sambrook, J; Molecular cloning:A laboratory manual 1989
(19) Schiweck, W; J Mol Biol 1997, V268, P934 HCAPLUS
(20) Schmidt, T; J Chromatogr A 1994, V67, P337
(21) Schmidt, T; Protein Eng 1993, V6, P109 HCAPLUS
(22) Skerra, A; Escherichia coli Gene 1994, V151, P131 HCAPLUS
(23) Smith, D; Gene 1988, V67, P31 HCAPLUS
(24) Voss, S; Protein Eng 1997, V10, P975 HCAPLUS
(25) Walker, J; Mol Biochem Parasitol 1993, V61, P255 HCAPLUS
(26) Walker, K; J Biol Chem 1994, V269, P28487 HCAPLUS
(27) Yanisch-Perron, C; Gene 1985, V33, P103 HCAPLUS

L97 ANSWER 3 OF 6 HCAPLUS COPYRIGHT 2005 ACS on STN

AN **1997:283774** HCAPLUS
DN **126:260138**
ED Entered STN: 03 May 1997
TI **Fusion** protein expression and display of substances on gram-positive host cell surfaces
IN Steidler, Lothar; Remaut, Erik; Wells, Jeremy Mark
PA Belg.
SO PCT Int. Appl., 49 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12N015-74
ICS C12N015-62; C12N015-31; C07K014-36; C07K014-31; C07K014-33; C12N001-21; A61K039-08; A61K039-09; C12N011-16; C12Q001-02; G01N033-68
ICI C12N001-21, C12R001-225
CC 3-2 (Biochemical Genetics)
Section cross-reference(s): 7, 10, 15
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9709437	A1	19970313	WO 1996-GB2195	19960906 <--
	W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI				
	CA 2231372	AA	19970313	CA 1996-2231372	19960906 <--
	AU 9668844	A1	19970327	AU 1996-68844	19960906 <--
	AU 729449	B2	20010201		
	ZA 9607562	A	19980306	ZA 1996-7562	19960906 <--
	EP 848756	A1	19980624	EP 1996-929431	19960906 <--
	EP 848756	B1	20040630		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI				
	CN 1201493	A	19981209	CN 1996-198087	19960906 <--
	JP 11511983	T2	19991019	JP 1996-510983	19960906 <--
	BR 9610133	A	19991221	BR 1996-10133	19960906 <--
	AT 270337	E	20040715	AT 1996-929431	19960906 <--
	NO 9800976	A	19980506	NO 1998-976	19980306 <--
	US 6190662	B1	20010220	US 1998-36609	19980306 <--
PRAI	GB 1995-18323	A	19950907 <--		
	WO 1996-GB2195	W	19960906 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9709437	ICM	C12N015-74
	ICS	C12N015-62; C12N015-31; C07K014-36; C07K014-31; C07K014-33; C12N001-21; A61K039-08; A61K039-09; C12N011-16; C12Q001-02; G01N033-68
	ICI	C12N001-21, C12R001-225
WO 9709437	ECLA	C07K014/31; C07K014/33; C07K014/36; C12N011/16; C12N015/62A; C12N015/74B <--
US 6190662	ECLA	C07K014/31; C12N015/74B; C07K014/33; C07K014/36; C12N011/16; C12N015/62A <--

AB Methods for obtaining surface expression of a desired **protein** or polypeptide in Gram-pos. host organism are provided. In addition, vectors useful in such methods as well as Gram-pos. host organisms transformed with such vectors are disclosed. Possible applications include (1) live or inactivated bacterial vaccines and tools for production of anti-**protein** antibodies, (2) bacterial delivery of biol. active mols.,

(3) surface display of antigens, antibodies, and ligands, (4) use of bacteria as whole cell adsorbents, (5) enzyme-coated bacteria as biocatalysts, (6) use of immobilized cells for production of **secreted proteins**, and (7) assembly at the bacterial surface of **heterodimeric proteins** with bifunctional N-terminal domains. Specific examples used **fusion proteins** including the Staphylococcus aureus **protein** A (SPA) C-terminal domain as cell wall attachment domain. **Streptavidin** was one of the desired **proteins** which was expressed as a **fusion protein** on the cell surface of Lactococcus lactis. L. lactis transformed with plasmid pL2SAX, expressed **streptavidin**-(SPA) **fusion** products and could be immobilized on a solid surface. A second example involved display of tetanus toxin fragment C antigen on the surface of L. lactis using plasmid pTTA to express the **fusion** product of the antigen with (SPA).

ST protein **fusion** expression display bacteria surface; gram pos bacteria display **fusion** protein; vaccine bacteria display **fusion** protein; antigen display gram pos bacteria surface; **streptavidin** display bacteria surface immobilization biotin

IT **Proteins, specific or class**
RL: BOC (Biological occurrence); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
(A, **fusion products**, Staphylococcus aureus, cell wall attachment domain; **fusion** protein expression and display of substances on gram-pos. host cell surfaces)

IT Proteins, specific or class
RL: BOC (Biological occurrence); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
(DNA-binding; **fusion** protein expression and display of substances on gram-pos. host cell surfaces)

IT Proteins, specific or class
RL: BOC (Biological occurrence); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
(F; **fusion** protein expression and display of substances on gram-pos. host cell surfaces)

IT Proteins, specific or class
RL: BOC (Biological occurrence); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
(RNA-binding; **fusion** protein expression and display of substances on gram-pos. host cell surfaces)

IT Cell wall
(anchoring domain for attachment on outer-surface of host cell wall; **fusion** protein expression and display of substances on gram-pos. host cell surfaces)

IT Immobilization, biochemical
(bacteria; **fusion** protein expression and display of substances on gram-pos. host cell surfaces)

IT Ligands
RL: BOC (Biological occurrence); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
(expression or purification; **fusion** protein expression and display of substances on gram-pos. host cell surfaces)

IT Bacillus subtilis

Clostridium
Corynebacterium
Genetic vectors
Gram-positive bacteria (Firmicutes)
Lactobacillus
Lactococcus
Lactococcus lactis
Plasmid vectors
Staphylococcus xylosus
Streptococcus gordonii
Vaccines
(**fusion** protein expression and display of substances on gram-pos. host cell surfaces)

IT Enzymes, biological studies
RL: BOC (Biological occurrence); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BUU (Biological use, unclassified); CAT (Catalyst use); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
(**fusion** protein expression and display of substances on gram-pos. host cell surfaces)

IT Adhesins
Antibodies
Antigens
Drugs
Fusion proteins (chimeric proteins)
Hormones, animal, biological studies
Immunostimulants
RL: BOC (Biological occurrence); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
(**fusion** protein expression and display of substances on gram-pos. host cell surfaces)

IT **Proteins, specific or class**
RL: BOC (Biological occurrence); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
(gene usp45, signal peptide, **fusion products**; **fusion** protein expression and display of substances on gram-pos. host cell surfaces)

IT Promoter (genetic element)
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(inducible; **fusion** protein expression and display of substances on gram-pos. host cell surfaces)

IT Plasmid vectors
(pL2SAX; **fusion** protein expression and display of substances on gram-pos. host cell surfaces)

IT Plasmid vectors
(pT1L2TT; **fusion** protein expression and display of substances on gram-pos. host cell surfaces)

IT Plasmid vectors
(pT1TT; **fusion** protein expression and display of substances on gram-pos. host cell surfaces)

IT Plasmid vectors
(pTREX1; **fusion** protein expression and display of substances on gram-pos. host cell surfaces)

IT Plasmid vectors
(pTTA; **fusion** protein expression and display of substances on gram-pos. host cell surfaces)

IT DNA sequences
(plasmid pTREX1; **fusion** protein expression and display of

substances on gram-pos. host cell surfaces)
IT Bacilli
(psychrophilic; **fusion** protein expression and display of substances on gram-pos. host cell surfaces)
IT Bacillus (bacterium genus)
(psychrotrophic; **fusion** protein expression and display of substances on gram-pos. host cell surfaces)
IT Signal peptides
RL: BOC (Biological occurrence); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
(**secretion** signal, **fusion** products; **fusion protein** expression and display of substances on gram-pos. host cell surfaces)
IT Toxins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(tetanus, fragment C antigen expression; **fusion** protein expression and display of substances on gram-pos. host cell surfaces)
IT 9012-90-2P, DNA polymerase
RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); BIOL (Biological study); PREP (Preparation); USES (Uses)
(T7, expression by inducible promoter; **fusion** protein expression and display of substances on gram-pos. host cell surfaces)
IT **9013-20-1DP, Streptavidin, fusion** products
RL: BOC (Biological occurrence); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
(host immobilization; **fusion** protein expression and display of substances on gram-pos. host cell surfaces)
IT 188763-77-1, DNA (plasmid pTREX1)
RL: BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(nucleotide sequence; **fusion** protein expression and display of substances on gram-pos. host cell surfaces)
IT 58-85-5, Biotin 58-85-5D, Biotin, conjugates
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(**streptavidin**-expressing host immobilization; **fusion** protein expression and display of substances on gram-pos. host cell surfaces)
IT **9013-20-1DP, Streptavidin, fusion** products
RL: BOC (Biological occurrence); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
(host immobilization; **fusion** protein expression and display of substances on gram-pos. host cell surfaces)
RN 9013-20-1 HCAPLUS
CN Streptavidin (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L97 ANSWER 4 OF 6 HCAPLUS COPYRIGHT 2005 ACS on STN
AN **1996:528422** HCAPLUS
DN **125:189931**
ED Entered STN: 03 Sep 1996
TI Biotin tagging deletion analysis of domain limits involved in protein-macromolecular interactions. Mapping the τ binding domain of the DNA polymerase III α subunit
AU Kim, Deok Ryong; McHenry, Charles S.
CS Dep. Biochem., Univ. Colorado Health Sci. Center, Denver, CO, 80262, USA
SO Journal of Biological Chemistry (**1996**), 271(34), 20690-20698
CODEN: JBCHA3; ISSN: 0021-9258

PB American Society for Biochemistry and Molecular Biology
DT Journal
LA English
CC 9-16 (Biochemical Methods)
Section cross-reference(s): 7
AB The τ subunit **dimerizes** DNA polymerase III via interaction with the α subunit, allowing DNA polymerase III holoenzyme to synthesize both leading and lagging strands simultaneously at the DNA replication fork. Here, we report a general method to map the limits of domains required for heterologous protein-protein interactions using surface plasmon resonance. The method employs **fusion** of a short biotinylation sequence at either the NH2 or COOH terminus of the protein to be immobilized on **streptavidin**-derivatized biosensor chips. Inclusion of a hexahistidine sequence permits rapid purification and separation of the **fusion** protein from the endogenous Escherichia coli biotin carboxyl carrier protein. Ten deletions of the α subunit were constructed and purified by Ni2+-nitrilotriacetic acid chromatog. and, when required, monomeric avidin chromatog. Each α deletion protein was captured by **streptavidin** immobilized on a Pharmacia Biosensor BIAcore chip, and the τ binding activity of each α deletion was analyzed using surface plasmon resonance. The τ subunit bound very tightly to a full-length amino-terminal **fusion** of the biotinylation sequence with α (KD .apprx.70 pM). Four addnl. NH2-terminal α deletion proteins (60, 240, 360, and 542 residues deleted) retained strong binding activity to the τ subunit (KD = 0.19-0.39 nM), whereas deletion of 705 residues or more from the NH2 terminus of the α subunit abolished τ-binding activity. Full-length α that contained a carboxyl-terminal **fusion** with the biotinylation sequence bound τ strongly (KD = 0.37 nM). However, deletion of 48 amino acids from the COOH terminus totally eliminated τ-binding. These results indicate that the COOH-terminal half of the α subunit is involved in τ interaction.
ST protein binding domain characterization method; biotin **streptavidin** biosensor chip binding domain; DNA polymerase subunit interaction deletion mutant
IT Molecular association
(involving proteins; mapping of proteins' binding domains via biotin-tagging deletion mutant anal. and application to mapping of τ subunit-binding domain of DNA polymerase III α subunit)
IT Proteins, analysis
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(mapping of proteins' binding domains via biotin-tagging deletion mutant anal. and application to mapping of τ subunit-binding domain of DNA polymerase III α subunit)
IT Quaternary structure
(of DNA polymerase III; mapping of proteins' binding domains via biotin-tagging deletion mutant anal. and application to mapping of τ subunit-binding domain of DNA polymerase III α subunit)
IT Biosensors
(**streptavidin**-derivatized, binding of biotin-tagged proteins by; mapping of proteins' binding domains via biotin-tagging deletion mutant anal. and application to mapping of τ subunit-binding domain of DNA polymerase III α subunit)
IT Mutation
(deletion, mapping of proteins' binding domains via biotin-tagging deletion mutant anal. and application to mapping of τ subunit-binding domain of DNA polymerase III α subunit)
IT Gene, microbial
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(dnaE, DNA polymerase α subunit; mapping of proteins' binding

domains via biotin-tagging deletion mutant anal. and application to mapping of τ subunit-binding domain of DNA polymerase III α subunit)

IT Gene, microbial
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(dnaX, DNA polymerase τ subunit; mapping of proteins' binding domains via biotin-tagging deletion mutant anal. and application to mapping of τ subunit-binding domain of DNA polymerase III α subunit)

IT **Proteins, specific or class**
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(**fusion products**, biotin conjugate; mapping of proteins' binding domains via biotin-tagging deletion mutant anal. and application to mapping of τ subunit-binding domain of DNA polymerase III α subunit)

IT Plasmon
(surface, resonance, use of in measuring protein interactions; mapping of proteins' binding domains via biotin-tagging deletion mutant anal. and application to mapping of τ subunit-binding domain of DNA polymerase III α subunit)

IT 180638-07-7 180638-08-8
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(amino acid sequence of, as biotin-**binding fusion peptide**; mapping of proteins' **binding** domains via biotin-tagging deletion mutant anal. and application to mapping of τ subunit- **binding** domain of DNA polymerase III α subunit)

IT **9013-20-1D**, **Streptavidin**, biosensor chip derivative
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(binding of biotin-tagged proteins by; mapping of proteins' binding domains via biotin-tagging deletion mutant anal. and application to mapping of τ subunit-binding domain of DNA polymerase III α subunit)

IT 58-85-5D, Biotin, **fusion** protein conjugate
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(binding of to **streptavidin**-derivatized biosensors; mapping of proteins' binding domains via biotin-tagging deletion mutant anal. and application to mapping of τ subunit-binding domain of DNA polymerase III α subunit)

IT 37217-33-7, DNA polymerase III
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(mapping of proteins' binding domains via biotin-tagging deletion mutant anal. and application to mapping of τ subunit-binding domain of DNA polymerase III α subunit)

IT 180687-35-8 180687-36-9
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(nucleotide sequence of, encoding biotin-**binding fusion peptide**; mapping of proteins' **binding** domains via biotin-tagging deletion mutant anal. and application to mapping of τ subunit- **binding** domain of DNA polymerase III α subunit)

IT **9013-20-1D, Streptavidin**, biosensor chip derivative
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(binding of biotin-tagged proteins by; mapping of proteins' binding domains via biotin-tagging deletion mutant anal. and application to mapping of τ subunit-binding domain of DNA polymerase III α subunit)
RN 9013-20-1 HCAPLUS
CN Streptavidin (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L97 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2005 ACS on STN
AN **1996:377160** HCAPLUS
DN **125:81106**
ED Entered STN: 29 Jun 1996
TI Development of a Sensitive Peptide-Based Immunoassay: Application to Detection of the Jun and Fos Oncoproteins
AU Heuer, Katja H.; Mackay, Joel P.; Podzebenko, Philip; Bains, Naresh P. S.; Weiss, Anthony S.; King, Glenn F.; Easterbrook-Smith, Simon B.
CS Department of Biochemistry, University of Sydney, Sydney, 2006, Australia
SO Biochemistry (**1996**), 35(28), 9069-9075
CODEN: BICHAW; ISSN: 0006-2960
PB American Chemical Society
DT Journal
LA English
CC 9-10 (Biochemical Methods)
Section cross-reference(s): 6
AB Both c-Jun and c-Fos belong to the bZIP class of transcriptional activator proteins, many of which have been implicated in the neoplastic transformation of cells. We are interested in engineering dominant-neg. leucine zipper (LZ) **peptides** as a means of sequestering these proteins in vivo to suppress their transcriptional regulatory activity. Toward this end, we developed a novel immunoassay for measuring the **dimerization** affinities of **dimeric** Jun and Fos complexes. This **peptide**-based ELISA relies on the fact that Jun and Fos preferentially form **heterodimers** via their leucine zipper domains. **Recombinant** Jun leucine zipper **peptides** (either native JunLZ or a V36→E point mutant) were labeled with biotin and specifically **bound** through a leucine zipper interaction to a FosLZ-glutathione S-transferase **fusion** protein adsorbed onto the wells of an ELISA tray. Jun:Fos complexes were subsequently detected by using a recently developed **streptavidin** -based amplification system known as enzyme complex amplification (Wilson, M. R.; Easterbrook-Smith, S. B., 1993). This ELISA system can detect subnanomolar concns. of Jun and Fos, thus allowing determination of the dissociation consts. for complex formation. The dissociation constant for formation of the native JunLZ:FosLZ **heterodimer** at 37° was determined to be 0.99 ± 0.30 nM, while that for JunLZ(V36E):FosLZ **heterodimer** was 0.90 ± 0.13 μM. These results demonstrate that the novel **peptide**-based ELISA described herein is simple and sensitive and can be used to rapidly screen for potential dominant-neg. leucine zipper **peptides.**
ST oncoprotein Fos Jun detection ELISA; enzyme immunoassay Fos Jun oncoprotein detection; leucine zipper peptide screening ELISA; **dimerization** Fos Jun complex ELISA
IT **Dimerization**
Transformation, neoplastic
(peptide-based immunoassay for detection of Jun and Fos oncoproteins)
IT Ribonucleic acid formation factors
RL: ANT (Analyte); ANST (Analytical study)

(gene c-fos, peptide-based immunoassay for detection of Jun and Fos oncoproteins)
IT Ribonucleic acid formation factors
RL: ANT (Analyte); ANST (Analytical study)
(gene c-jun, peptide-based immunoassay for detection of Jun and Fos oncoproteins)
IT Conformation and Conformers
(leucine zipper, peptide-based immunoassay for detection of Jun and Fos oncoproteins)
IT Mutation
(point, peptide-based immunoassay for detection of Jun and Fos oncoproteins)
IT 50812-37-8D, Glutathione S-transferase, **fusion** proteins
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(peptide-based immunoassay for detection of Jun and Fos oncoproteins)

L97 ANSWER 6 OF 6 HCAPLUS COPYRIGHT 2005 ACS on STN
AN **1994:161773** HCAPLUS
DN **120:161773**
ED Entered STN: 02 Apr 1994
TI Manufacture of **streptavidin** by expression of the sav gene in Bacillus subtilis
IN Nagarajan, Vasantha
PA du Pont de Nemours, E. I., and Co., USA
SO PCT Int. Appl., 54 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12N015-31
ICS C12N015-75; C12N015-62; C12N015-54
CC 16-4 (Fermentation and Bioindustrial Chemistry)
Section cross-reference(s): 6, 9
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9324631	A1	19931209	WO 1993-US5240	19930527 <--
	W: CA, JP				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 644938	A1	19950329	EP 1993-914323	19930527 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	JP 07507449	T2	19950824	JP 1993-500855	19930527 <--
PRAI	US 1992-891524	A	19920529 <--		
	WO 1993-US5240	W	19930527 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9324631	ICM	C12N015-31
	ICS	C12N015-75; C12N015-62; C12N015-54

AB **Tetrameric** biol. active **streptavidin** and **streptavidin fusion proteins** are manufactured by **cloning** the sav gene from Streptomyces avidinii and expressing it in Bacillus subtilis and purifying the **secreted streptavidin proteins** from the growth medium. The method is useful for purification of **streptavidin** itself or for use of the **streptavidin** as an affinity label for purification of another **protein** (no data). Bacillus regulatory regions are used to direct expression of the gene and signal peptides functional in B. subtilis are used to direct **secretion** of the **protein.** The sav gene was placed under control of the npr gene regulatory region of B. amyloliquefaciens with the signal sequence attached directly to the 5'-end of the sav coding region. Transformants **secreted** the mature **protein** into the medium with **streptavidin** accumulating

to 20-30 mg/L after 12 h. The manufacture of **streptavidin** as a **fusion protein** with levansucrase was demonstrated.

ST **streptavidin** manuf Bacillus secretion

IT Deoxyribonucleic acid sequences
(for **streptavidin** of Streptomyces avidinii)

IT Gene, microbial
RL: BIOL (Biological study)
(lvs, promoter and signal sequence of, of Bacillus amyliquefaciens, in secretory expression of **streptavidin** gene in B. subtilis)

IT Protein sequences
(of **streptavidin** of Streptomyces avidinii)

IT Plasmid and Episome
(pBE655, **chimeric** gene for **streptavidin** **fusion** protein with levansucrase on, expression in Bacillus subtilis of)

IT Plasmid and Episome
(pBE659 and pBE661, **streptavidin** gene on, expression in Bacillus subtilis of, npr gene promoter and signal sequence in)

IT Plasmid and Episome
(pBE660, **streptavidin** gene on, expression in Bacillus subtilis of, apr gene promoter and signal sequence in)

IT Plasmid and Episome
(pBE662, **streptavidin** gene on, expression in Bacillus subtilis of, bar gene promoter and signal sequence in)

IT Plasmid and Episome
(pBE663, **streptavidin** gene on, expression in Bacillus subtilis of, lvs gene promoter and signal sequence in)

IT Plasmid and Episome
(pBE673, truncated **streptavidin** analog gene on, expression in Bacillus subtilis of, npr gene promoter and signal sequence in)

IT Bacillus amyloliquefaciens
(promoters and signal sequences of, in secretory expression of **streptavidin** gene in B. subtilis)

IT Streptomyces avidinii
(sav gene of, **cloning** and expression in Bacillus subtilis of, **streptavidin** manufacture in relation to)

IT Gene, microbial
RL: BIOL (Biological study)
(sav, of Streptomyces avidinii, **cloning** and expression in Bacillus subtilis of, **streptavidin** manufacture in relation to)

IT Fermentation
(**streptavidin**, with Bacillus subtilis)

IT **Proteins, specific or class**
RL: BIOL (Biological study)
(A, **fusion products**, with **streptavidin**, manufacture in Bacillus subtilis of)

IT Gene, microbial
RL: PRP (Properties)
(apr, promoter and signal sequence of, of Bacillus amyliquefaciens, in secretory expression of **streptavidin** gene in B. subtilis)

IT Gene, microbial
RL: PRP (Properties)
(bar, promoter and signal sequence of, of Bacillus amyliquefaciens, in secretory expression of **streptavidin** gene in B. subtilis)

IT Gene, microbial
RL: BIOL (Biological study)
(**chimeric**, for **fusion** protein of **streptavidin** and levansucrase, expression in Bacillus subtilis of)

IT **Proteins, specific or class**
RL: BIOL (Biological study)
(**fusion products**, **streptavidin**-containing, **secretory** manufacture in Bacillus subtilis of)

IT Gene, microbial
RL: PRP (Properties)
(npr, promoter and signal sequence of, of Bacillus amyliquefaciens, in secretory expression of **streptavidin** gene in B. subtilis)
IT Genetic element
RL: BIOL (Biological study)
(promoter, of apr or npr or lvs or bar gene of Bacillus amyliquefaciens, in secretory expression of **streptavidin** gene in B. subtilis)
IT Genetic element
RL: BIOL (Biological study)
(signal sequence, of apr or npr or lvs or bar gene of Bacillus amyliquefaciens, in secretory expression of **streptavidin** gene in B. subtilis)
IT **101841-11-6**, **Streptavidin** (Streptomyces avidinii subunit precursor)
RL: BIOL (Biological study)
(amino acid sequence of and **cloning** and expression in Bacillus subtilis of gene for)
IT 9030-17-5D, Levansucrase, **fusion** products with **streptavidin**
RL: BIOL (Biological study)
(**chimeric** gene for, expression in Bacillus subtilis of)
IT **153485-18-8**
RL: BIOL (Biological study)
(**fusion** proteins containing, manufacture in Bacillus subtilis of)
IT 9001-78-9DP, Alkaline phosphatase, **fusion** products with **streptavidin** 9014-00-0DP, Luciferase, **fusion** products with **streptavidin** 9073-60-3DP, β-Lactamase, **fusion** products with **streptavidin**
RL: PREP (Preparation)
(manufacture in Bacillus subtilis of)
IT **9013-20-1DP**, **Streptavidin**, **fusion** products
9013-20-1P, **Streptavidin**
RL: PREP (Preparation)
(manufacture in Bacillus subtilis of, **cloning** and expression of sav gene of Streptomyces avidinii in)
IT **101840-65-7**, Deoxyribonucleic acid (Streptomyces avidinii **streptavidin** gene)
RL: BIOL (Biological study)
(nucleotide sequence and **cloning** and expression in Bacillus subtilis of)
IT **101841-11-6**, **Streptavidin** (Streptomyces avidinii subunit precursor)
RL: BIOL (Biological study)
(amino acid sequence of and **cloning** and expression in Bacillus subtilis of gene for)
RN 101841-11-6 HCAPLUS
CN Streptavidin (Streptomyces avidinii subunit precursor) (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **153485-18-8**
RL: BIOL (Biological study)
(**fusion** proteins containing, manufacture in Bacillus subtilis of)
RN 153485-18-8 HCAPLUS
CN 15-159-Streptavidin (Streptomyces avidinii subunit precursor) (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **9013-20-1DP**, **Streptavidin**, **fusion** products
9013-20-1P, **Streptavidin**
RL: PREP (Preparation)

(manufacture in Bacillus subtilis of, **cloning** and expression of sav gene of Streptomyces avidinii in)
RN 9013-20-1 HCAPLUS
CN Streptavidin (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9013-20-1 HCAPLUS
CN Streptavidin (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **101840-65-7**, Deoxyribonucleic acid (Streptomyces avidinii **streptavidin** gene)
RL: BIOL (Biological study)
(nucleotide sequence and **cloning** and expression in Bacillus subtilis of)
RN 101840-65-7 HCAPLUS
CN DNA (Streptomyces avidinii streptavidin gene) (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

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=> d all tot l101

L101 ANSWER 1 OF 11  HCAPLUS  COPYRIGHT 2005 ACS on STN
AN   2003:6165  HCAPLUS
DN   138:83349
ED   Entered STN:  05 Jan 2003
TI   Cancer cell cell-surface molecule and cancer-specific promoter
     identification, targeting complexes, binding partners, and treatment
     methods
IN   Poulsen, Hans Skovgaard; Pedersen, Nina; Mortensen, Shila; Sorensen,
     Susanne Berg; Petersen, Mikkel Wandahl; Elsner, Henrik Irgang
PA   Odin Medical A/S, Den.
SO   PCT Int. Appl., 223 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
IC   ICM  C12Q001-68
CC   1-6 (Pharmacology)
     Section cross-reference(s): 3, 63
FAN.CNT 1
     PATENT NO.           KIND   DATE        APPLICATION NO.         DATE
     ---------------      ----   --------    --------------------    --------
PI   WO 2003000928         A2    20030103    WO 2002-IB3534          20020619
     WO 2003000928         A3    20040603
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
             PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
             UA, UG, US, UZ, VN, YU, ZA, ZM, ZW
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB,
             GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA,
             GN, GQ, GW, ML, MR, NE, SN, TD, TG
     EP 1446501            A2    20040818    EP 2002-760486          20020619
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
     JP 2005500833         T2    20050113    JP 2003-507309          20020619
     US 2005037445         A1    20050217    US 2004-482029          20040903
PRAI DK 2001-992           A     20010625
     US 2001-301818P       P     20010702
     WO 2002-IB3534        W     20020619
CLASS
 PATENT NO.       CLASS  PATENT FAMILY CLASSIFICATION CODES
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 WO 2003000928    ICM    C12Q001-68
 JP 2005500833    FTERM  2G045/AA35; 2G045/AA40; 2G045/BA11; 2G045/BB50;
                         2G045/DA13; 2G045/DA36; 2G045/FB02; 2G045/FB03;
                         4B024/AA01; 4B024/AA12; 4B024/AA15; 4B024/CA04;
                         4B024/CA12; 4B024/HA12; 4B024/HA14; 4B024/HA20;
                         4B063/QA01; 4B063/QA19; 4B063/QQ08; 4B063/QQ43;
                         4B063/QQ49; 4B063/QQ53; 4B063/QQ79; 4B063/QR32;
                         4B063/QR55; 4B063/QR62; 4B063/QS25; 4B063/QS34;
                         4B063/QS39; 4C076/AA11; 4C076/AA16; 4C076/AA95;
                         4C076/BB11; 4C076/EE59M; 4C076/FF31; 4C076/FF34;
                         4C076/FF68; 4C084/AA13; 4C084/BA35; 4C084/MA17;
                         4C084/MA24; 4C084/MA66; 4C084/NA10; 4C084/NA12;
                         4C084/ZB261; 4C084/ZB271; 4C084/ZC711; 4C084/ZC781;
                         4C085/AA03; 4C085/AA26; 4C085/AA27; 4C085/AA32;
                         4C085/AA38; 4C085/BA01; 4C085/BB11; 4C085/DD86;
                         4C085/EE01; 4C085/FF24; 4C085/GG01; 4H045/AA10;
                         4H045/AA11; 4H045/AA20; 4H045/AA30; 4H045/AA50;
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4H045/BA10; 4H045/CA41; 4H045/DA50; 4H045/DA75;
4H045/EA20; 4H045/EA31; 4H045/EA54; 4H045/FA74

AB The invention describes methods for identification of mols. expressed at a different level on the cell surface of cancer cells compared to non-malignant cells and methods of identification of cancer-specific promoters to be used singly or in combination for delivery and expression of therapeutic genes for treatment of cancer. The invention furthermore describes targeting complexes targeted to cell surface mols. identified by the methods of the invention. In embodiments of the invention, the targeting complexes comprise the promoters identified by the methods of the invention. In addition the invention describes methods of identifying binding partners for the cell surface mols. and the binding partners per se. Methods of treatment using the targeting complexes and uses of the targeting complexes for the preparation of a medicament are also disclosed by the invention. Furthermore, the invention describes uses of the cell surface mols. or fragments thereof for preparation of vaccines.

ST screening cancer cell surface mol promoter antitumor drug

IT Glutamate receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(AMPA-binding, agonists/antagonists, binding partner; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(BCL3; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(BMI-1; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Proteins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(BRCA1, tumor suppressor; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Proteins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Bak, apoptosis inducer; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Proteins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Bax, apoptosis inducer; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Proteins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Bid, apoptosis inducer; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Cholecystokinin receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(CCKB; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT CD antigens
RL: BSU (Biological study, unclassified); BIOL (Biological study)

(CD103; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Proteins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(CDKN2A, tumor suppressor; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(CHRNA5, targeting complex; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Animal cell line
(CPH 54 A; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Animal cell line
(CPH 54 B; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(Cym; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Proteins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(DCC (deleted in colorectal cancer), tumor suppressor; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Animal cell line
(DMS 114; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Animal cell line
(DMS 153; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Animal cell line
(DMS 273; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Animal cell line
(DMS 406; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Animal cell line
(DMS 456; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Animal cell line
(DMS 53; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Animal cell line
(DMS 79; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Animal cell line
(DMS 92; cancer cell cell-surface mol. and cancer-specific promoter

identification, targeting complexes, binding partners, and treatment methods)

IT Proteins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(DPCH, tumor suppressor; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Apolipoproteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(E, peptides, binding partner; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Cadherins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(E-, binding partner; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Apolipoproteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(E2, binding partner; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Apolipoproteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(E3, binding partner; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Apolipoproteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(E4, binding partner; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(Elk; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(Ets; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Proteins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(FCC, tumor suppressor; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(FOP; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(Fes/Fps; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(Flg; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment

methods)
IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(Fms; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(Fyn; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Animal cell line
(GLC 14; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Animal cell line
(GLC 16; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Animal cell line
(GLC 19; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
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(GLC 28; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Animal cell line
(GLC 2; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Animal cell line
(GLC 3; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(GPR49; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(GRIA2, targeting complex; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(GRM8, targeting complex; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Proteins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(GZMB, apoptosis inducer; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Genetic methods
(Gene Chip anal.; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and

treatment methods)
IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(ITGAE, targeting complex; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(ITGAV, targeting complex; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Toxins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(JSTX; binding partner; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(KGF; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(Kit; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(L1CAM, **recombinant** fragments, binding partner; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(LRP8, targeting complex; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Animal cell line
(MAR 86 MI; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Animal cell line
(MAR H24; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Proteins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(MCC, tumor suppressor; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Proteins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(MEN-1, tumor suppressor; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Proteins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(MEN-II, tumor suppressor; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Proteins

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(MSH2, tumor suppressor; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(Mas; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(Mer; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(Met; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Cell adhesion molecules
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(N-CAM, NCAM-1, binding partner; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(N-ras; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(NCAM1, targeting complex; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Animal cell line
(NCI H417; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Animal cell line
(NCI H69; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Animal cell line
(NCI-128; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Animal cell line
(NCI-446; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

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(NCI-H1048; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Animal cell line
(NCI-H1059; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

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methods)
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(NCI-H2108; cancer cell cell-surface mol. and cancer-specific promoter

identification, targeting complexes, binding partners, and treatment methods)
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(NCI-H2227; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
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(NCI-H2286; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Animal cell line
(NCI-H2330; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Animal cell line
(NCI-H250; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Animal cell line
(NCI-H345; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Animal cell line
(NCI-H378; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Animal cell line
(NCI-H446; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Animal cell line
(NCI-H460; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Animal cell line

(NCI-H510A; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Animal cell line
(NCI-H524; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Animal cell line
(NCI-H526; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Animal cell line
(NCI-H592; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Animal cell line
(NCI-H60; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Animal cell line
(NCI-H660; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Animal cell line
(NCI-H711; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Animal cell line
(NCI-H719; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Animal cell line
(NCI-H735; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Animal cell line
(NCI-H740; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Animal cell line
(NCI-H748; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Animal cell line
(NCI-H774; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Animal cell line
(NCI-H82; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Animal cell line
(NCI-H841; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Animal cell line
(NCI-H847; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Animal cell line
(NCI-H865; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Animal cell line
(NCI-H889; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Proteins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(NF-1, tumor suppressor; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Proteins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(NF-2, tumor suppressor; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(NPTXR, targeting complex; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(Neu; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(PDGFB; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Proteins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(PTCH, tumor suppressor; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(Pim; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Adipose tissue
Adrenal gland
Bladder
Brain
Esophagus
Heart
Kidney
Larynx
Leukocyte
Liver
Lung
Mammary gland
Muscle
Ovary
Pancreas
Placenta
Prostate gland
Salivary gland
Skin
Spinal cord
Spleen

Stomach
Testis
Thymus gland
Thyroid gland
Trachea (anatomical)
Uterus
(RNA from; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT PCR (polymerase chain reaction)
(RT-PCR (reverse transcription-PCR); cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(Raf; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(Rap-2; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Transcription factors
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Rb, tumor suppressor; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(RhoA; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Animal cell line
(SHP-77; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Animal cell line
(SW 1271; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(Ski; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(Spi-1; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(Src; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(Syn; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Proteins

RL: BSU (Biological study, unclassified); BIOL (Biological study)
(TCBP49 (taipoxin-associated calcium-binding protein 49); cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Transforming growth factor receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(TGF-β receptor, type I; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Transforming growth factor receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(TGF-β receptor, type II; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(TMEFF1; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(TMEFF; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(TNFR-related death receptor 6; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(TNFRSF12; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Proteins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(TRAIL (tumor necrosis factor-related apoptosis-inducing ligand), apoptosis inducer; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Genetic element
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(TRE (thyroid hormone-responsive element); cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Proteins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(TSC2, tumor suppressor; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(Trk; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Proteins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(VHL, tumor suppressor; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Proteins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(WT-1, tumor suppressor; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(Wnt-5a; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Lipoprotein receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(apolipoprotein E receptor, 2; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Fas antigen
Tumor necrosis factors
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(apoptosis inducer; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Cell cycle
(arrest, protein contributing to; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Neuroglia, neoplasm
(astrocytoma; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(atrial natriuretic peptide clearance receptor; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Proteins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(bik, apoptosis inducer; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Fibrinogens
Fibronectins
Laminins
Osteopontin
Peptides, biological studies
Thrombospondins
Vitronectin
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(binding partner; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Steroid receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(binding site; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Proteins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(bioreactive; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and

treatment methods)
IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(c-abl; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(c-myc; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(c-tyr; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Antitumor agents
Bladder, neoplasm
Brain, neoplasm
Chemotherapy
Combinatorial library
Cytoprotective agents
Cytotoxic agents
Databases
Drug delivery systems
Drug screening
Drug targets
Gene therapy
Human
Immunotherapy
Leukemia
Lung, neoplasm
Mammary gland, neoplasm
Melanoma
Neoplasm
Northern blot hybridization
Ovary, neoplasm
Peptide library
Phage display library
Prostate gland, neoplasm
Radiotherapy
Surgery
Uterus, neoplasm
(cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Bombesin receptors
Epidermal growth factor receptors
Insulin-like growth factor I receptors
Insulin-like growth factor II receptors
Insulin-like growth factor receptors
Nucleic acids
Promoter (genetic element)
RNA
Silencer (genetic element)
cDNA
mRNA
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Antisense RNA
Cytokines

Glucocorticoids
Hormones, animal, biological studies
Radionuclides, biological studies
Ribozymes
Ricins
Toxins
p53 (protein)
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Proteins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(capsid, viral, endosomal lytic agent; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Ligands
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(cell-surface mol. binding partners; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Post-translational processing
(cell-surface mol. extracellular portion; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Uterus
(cervix, RNA from; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Uterus, neoplasm
(cervix; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Toxins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cholera; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Intestine
(colon, RNA from; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Intestine, neoplasm
(colon; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Intestine, neoplasm
(colorectal; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Neoplasm
(craniopharyngioma; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Toxins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(diphtheria; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Brain, neoplasm
(ependymoma; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Pseudomonas
(exotoxin; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Toxins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(exotoxins, Pseudomonas; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Neoplasm
(germ cell; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(glial cell line-derived neurotrophic factor α receptor; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Neuroglia, neoplasm
(glioblastoma; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Antibodies and Immunoglobulins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(humanized; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Immunoassay
(immunoblotting; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Apoptosis
(inducers; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Drug delivery systems
(injections, i.v.; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Drug delivery systems
(injections, s.c.; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Antigens
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(insulinoma-associated antigen 1; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(int-2; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Biological transport
(internalization; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Genetic element

RL: BSU (Biological study, unclassified); BIOL (Biological study)
(intron; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Glutamate receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(ionotropic glutamate receptor 2; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(lamins, B1; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Antigens
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(large T, SV40, nuclear targeting signal; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Simian virus 40
(large tumor antigen, nuclear targeting signal; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Endosome
(lytic agent; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Brain, neoplasm
(medulloblastoma; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Proteins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(membrane-destabilizing, endosomal lytic agent; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Nervous system, neoplasm
(meningioma; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Glutamate receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(metabotropic, 8; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Antibodies and Immunoglobulins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(monoclonal, 123C3, binding partner; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Astrocyte
(neoplasm, astrocytoma; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Meninges
(neoplasm, meningioma; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Oligodendrocyte
(neoplasm, oligodendroglioma; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Schwann cell
(neoplasm, schwannoma; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Gamete and Germ cell
(neoplasm; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Nerve, neoplasm
(neuroblastoma; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Nerve
(neuron, neuronoma; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(neuronal pentraxin receptor; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Lung, neoplasm
(non-small-cell carcinoma; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Histones
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(nucleic acid binding agent; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Neuroglia, neoplasm
(oligodendroglioma; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Peptides, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(oligopeptides, nuclear targeting signal; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(oncogene, and proto-oncogene, antisense rNA or ribozyme targeted against RNA of; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Cyclin dependent kinase inhibitors
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(p16INK4A, tumor suppressor; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(p55; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Proteins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(p73, tumor suppressor; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Drug delivery systems
(parenterals; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(pentraxins, binding partner; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Neoplasm
(pineal; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Membrane, biological
(polypeptide destabilizing, endosomal lytic agent; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Nucleic acids
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(pro139; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Nucleic acids
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(pro140; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Nucleic acids
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(pro14; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Nucleic acids
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(pro16; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Nucleic acids
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(pro19; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Nucleic acids
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(pro207; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Nucleic acids
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(pro209; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Nucleic acids
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(pro210; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Nucleic acids
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(pro221; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Nucleic acids

RL: BSU (Biological study, unclassified); BIOL (Biological study)
(pro246; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Nucleic acids
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(pro273; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Nucleic acids
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(pro27; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Nucleic acids
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(pro2; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Nucleic acids
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(pro30; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Nucleic acids
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(pro362; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Nucleic acids
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(pro41; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Nucleic acids
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(pro49; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Nucleic acids
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(pro4; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Nucleic acids
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(pro5; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Nucleic acids
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(pro71; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Nucleic acids
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(pro81; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Nucleic acids
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(pro8; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment

methods)
IT Therapy
(protein; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Carcinoma
(pulmonary non-small-cell; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Carcinoma
(pulmonary small-cell; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Intestine
(rectum, RNA from; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Virus
(replication-defective, endosomal lytic agent; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Nervous system, neoplasm
(schwannoma; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Intestine
(small, RNA from; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Lung, neoplasm
(small-cell carcinoma; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Antibodies and Immunoglobulins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(to cell-surface mols., binding partner; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Heart
Kidney
Liver
Lung
(toxicity, RNA from; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Lasers
(treatment with; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT ADP ribosylation factor
APC protein
Proteins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(tumor suppressor; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Antigens
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(tumor-associated; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)
IT Vaccines

(tumor; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Bombesin receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(type BB1; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Antitumor agents
(vaccines; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(viral; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Phototherapy
(with laser light; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Integrins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(αv; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT Transforming growth factors
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(β-, apoptosis inducer; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT 186322-81-6, Caspase
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(apoptosis inducer; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT 85637-73-6, Atrial natriuretic peptide
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(atrial natriuretic peptide clearance receptor; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT 51-83-2, Carbachol 51-84-3, Acetylcholine, biological studies 54-11-5, Nicotine 56-86-0, L-Glutamic acid, biological studies 56-86-0D, L-Glutamic acid, analogs 487-79-6, Kainic acid 2379-57-9, DNQX 9001-26-7, Prothrombin 10174-72-8, 6-Chlorokynurenic acid **11032-79-4**, α-Bungarotoxin 52019-39-3, Taipoxin 63291-47-4D, Quinoxaline-2,3-dione, derivs. 83643-89-4 102771-26-6, GYKI52466 109319-16-6, Von Willebrand's factor 115066-14-3, CNQX 118876-58-7, NBQX 120667-15-4, (R,S)-PPG 134052-73-6, CPPG 140187-23-1 140187-25-3 146480-35-5, Matrix metalloproteinase 2 201730-11-2, (S)-3,4-DCPG 404843-77-2, Reelin 479577-97-4 483339-85-1, L-APA 483339-86-2, L-SOP 483339-87-3, ACPT 483364-63-2, Oxynor
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(binding partner; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT 137246-51-6 263237-68-9 479577-98-5 479577-99-6 479649-46-2
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(binding partner; cancer cell cell-surface mol. and cancer-specific

promoter identification, targeting complexes, binding partners, and treatment methods)

IT **58-85-5, Biotin 9013-20-1, Streptavidin**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT 50-02-2, Dexamethasone 50-76-0, Actinomycin D 53-79-2, Puromycin 54-05-7, Chloroquine 66-81-9, Cycloheximide 302-79-4, Retinoic acid 7689-03-4, Camptothecin 18883-66-4, Streptozotocin 33419-42-0, Etoposide 52665-69-7, A23187 62996-74-1, Staurosporine 67526-95-8, Thapsigargin 78111-17-8, Okadaic acid
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT 9002-98-6
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(endosomal lytic agent; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT 71-44-3, Spermine 124-20-9, Spermidine 25104-18-1, Poly-L-lysine 38000-06-5, Poly-L-lysine
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(nucleic acid binding agent; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT 482671-30-7 482671-31-8 482671-32-9 482671-33-0 482671-34-1
482671-35-2 482671-36-3 482671-37-4 482671-38-5 482671-39-6
482671-40-9 482671-41-0 482671-42-1 482671-43-2 482671-44-3
482671-45-4 482671-46-5 482671-47-6 482671-48-7 482671-49-8
482671-50-1 482671-51-2 482671-52-3 482671-53-4 482671-54-5
482671-55-6 482671-56-7 482671-57-8 482671-58-9 482671-59-0
482671-60-3 482671-61-4 482671-62-5 482671-63-6 482671-64-7
482671-65-8 482671-66-9 482671-67-0
RL: PRP (Properties)
(unclaimed nucleotide sequence; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT 482671-15-8 482671-16-9 482671-17-0 482671-18-1 482671-19-2
482671-20-5 482671-21-6 482671-22-7 482671-23-8 482671-24-9
482671-25-0 482671-26-1 482671-27-2 482671-28-3 482671-29-4
RL: PRP (Properties)
(unclaimed protein sequence; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

IT 95088-49-6 123251-89-8 126143-96-2 126143-97-3 145545-42-2
152551-92-3 161867-75-0 168331-11-1 171783-56-5 183896-75-5
189457-08-7 205385-38-2 205385-47-3 209725-68-8 215777-00-7
223503-77-3 253328-16-4 253328-21-1 253328-23-3 338385-86-7
340737-68-0 379717-62-1 379717-63-2 379717-65-4 379717-66-5
379717-87-0 379718-01-1 379718-03-3 379720-25-9 385792-79-0
425383-22-8 475390-89-7 482621-85-2 482621-86-3 482621-88-5
482621-89-6 482621-90-9 482621-91-0 482621-92-1 482621-93-2
482621-94-3 482622-10-6 482622-62-8 482622-74-2 482625-11-6
482625-41-2 482625-64-9 482625-99-0 482626-15-3 482626-16-4
482626-17-5 482626-18-6 482626-19-7 482626-20-0 482626-21-1
482626-22-2 482626-23-3 482626-24-4 482626-25-5 482626-26-6
482626-27-7 482626-29-9 482626-30-2 482626-59-5 482626-69-7

482626-73-3 482626-74-4 482626-75-5 482626-76-6 482626-77-7
482626-79-9 482626-81-3 482626-82-4 482626-83-5 482626-91-5
482627-57-6
RL: PRP (Properties)
(unclaimed sequence; cancer cell cell-surface mol. and cancer-specific promoter identification, targeting complexes, binding partners, and treatment methods)

L101 ANSWER 2 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:861921 HCAPLUS
DN 134:14910
ED Entered STN: 08 Dec 2000
TI Detection of biomolecules using polymer containing vesicles and functionalized sensors
IN Kroger, Dietmar; Vogel, Horst; Pawlak, Michael
PA Zeptosens A.-G., Switz.
SO PCT Int. Appl., 40 pp.
CODEN: PIXXD2
DT Patent
LA German
IC ICM G01N033-543
CC 9-1 (Biochemical Methods)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000073798	A1	20001207	WO 2000-EP4491	20000518
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1180242	A1	20020220	EP 2000-938651	20000518
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2003501631	T2	20030114	JP 2001-500867	20000518
PRAI	CH 1999-990	A	19990527		
	WO 2000-EP4491	W	20000518		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2000073798	ICM	G01N033-543

AB The invention relates to a functionalized, polymer-reinforced (sterically stabilized) vesicle which comprises a biol., biochem. or synthetic identifying element for identifying and binding a ligand. In addition, the inventive vesicle optionally contains labels which serve as signal-generating constituents in a bioanal. detection method. The invention also relates to a method for producing said vesicle and to the use thereof in detection methods. Thus, self assembled monolayers (SAMs) were produced on the surface of a surface plasmon resonance (SPR) chip, the SAMs were treated with EDC and **streptavidin**, and functionalized with **biotinylated** α-Bungarotoxin. Lipid vesicles were produced with DOPC, cholesterol and DOPG, that were stabilized with PEG; nicotinic acetylcholine receptors incorporated. A method is given for the evaluation signals that correspond to non-specific binding. Labels for other detection methods, e.g. ESR, NMR, immunoassay can be added.
ST sensor polymer vesicle lipid SPR nicotinic acetylcholine receptor bungarotoxin
IT Lipids, biological studies

RL: BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); BIOL (Biological study); PROC (Process)
(boloamphiphilic; vesicle containing polymers and sensor detection methods based thereon)

IT Polyoxyalkylenes, biological studies
RL: BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); BIOL (Biological study); PROC (Process)
(derivs. with POPE and DMPA; vesicle containing polymers and sensor detection methods based thereon)

IT Receptors
RL: BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); BIOL (Biological study); PROC (Process)
(membrane; vesicle containing polymers and sensor detection methods based thereon)

IT Sulfoxides
RL: BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); BIOL (Biological study); PROC (Process)
(polysulfoxides; vesicle containing polymers and sensor detection methods based thereon)

IT Surface plasmon
(resonance spectroscopy; vesicle containing polymers and sensor detection methods based thereon)

IT Optical waveguides
(thin layer; vesicle containing polymers and sensor detection methods based thereon)

IT Liposomes
(unilamellar; vesicle containing polymers and sensor detection methods based thereon)

IT Biochemical molecules
Biotinylation
Blood analysis
Dialysis
ESR (electron spin resonance)
Evaporation
Fluorometry
Immunoassay
Molecular recognition
NMR spectroscopy
Nanoparticles
Optical instruments
Plant analysis
Self-assembled monolayers
Sensors
Soil analysis
UV and visible spectroscopy
Urine analysis
Vesicles (colloidal)
(vesicle containing polymers and sensor detection methods based thereon)

IT Antibodies
Cardiolipins
DNA
Enzymes, biological studies
Glycolipids
Ligands
Lipids, biological studies
Nicotinic receptors
Peptides, biological studies
Phosphatidic acids
Phosphatidylcholines, biological studies

Phosphatidylethanolamines, biological studies
Phosphatidylglycerols
Phosphatidylinositols
Phosphatidylserines
Plasmalogens
Polymers, biological studies
RNA
Sphingomyelins
Sterols
RL: BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); BIOL (Biological study); PROC (Process)
(vesicle containing polymers and sensor detection methods based thereon)

IT Glass, uses
Polycarbonates, uses
Polyimides, uses
RL: DEV (Device component use); USES (Uses)
(vesicle containing polymers and sensor detection methods based thereon)

IT 10015-88-0D, PEG derivative
RL: BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); BIOL (Biological study); PROC (Process)
(POPE; vesicle containing polymers and sensor detection methods based thereon)

IT 51-84-3, Acetylcholine, biological studies
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(nicotinic acetylcholine receptors; vesicle containing polymers and sensor detection methods based thereon)

IT 71-00-1, L-Histidine, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(tag; vesicle containing polymers and sensor detection methods based thereon)

IT 57-88-5, Cholesterol, biological studies 4235-95-4 9004-54-0, Dextran, biological studies **9013-20-1**, **Streptavidin** **11032-79-4**, α-Bungarotoxin 25322-68-3D, PEG, derivs. with POPE and DMPA 26204-55-7, Dodecylammonium bromide 30170-00-4 62700-69-0
RL: BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); BIOL (Biological study); PROC (Process)
(vesicle containing polymers and sensor detection methods based thereon)

IT 9011-14-7, Polymethyl methacrylate
RL: DEV (Device component use); USES (Uses)
(vesicle containing polymers and sensor detection methods based thereon)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) Carbonell, R; US 5494803 A 1996 HCAPLUS
(2) Efremova, N; BIOCHEMISTRY 2000, V39, P3441 HCAPLUS
(3) Harrison, B; JOURNAL OF IMMUNOLOGICAL METHODS 1998, V212(1), P29 HCAPLUS
(4) Nissui Seiyaku Co; EP 0683397 A 1995 HCAPLUS
(5) Rubinstein, I; WO 9735561 A 1997 HCAPLUS
(6) Wako Pure Chem Ind Ltd; EP 0475786 A 1992 HCAPLUS
(7) Zalipsky, S; US 5891468 A 1999 HCAPLUS

L101 ANSWER 3 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:390863 HCAPLUS
DN 131:194436
ED Entered STN: 25 Jun 1999
TI Ligand binding to nicotinic acetylcholine receptor investigated by surface plasmon resonance
AU Kroeger, Dietmar; Hucho, Ferdinand; Vogel, Horst
CS Laboratoire de Chimie Physique des Polymeres et Membranes, Ecole

Polytechnique Federale de Lausanne, Lausanne, CH-1015, Switz.
SO Analytical Chemistry (1999), 71(15), 3157-3165
CODEN: ANCHAM; ISSN: 0003-2700
PB American Chemical Society
DT Journal
LA English
CC 2-1 (Mammalian Hormones)
Section cross-reference(s): 9
AB Ligand binding to the nicotinic acetylcholine receptor is studied by surface plasmon resonance. **Biotinylated** bungarotoxin, immobilized on a **streptavidin**-coated gold film, binds nicotinic acetylcholine receptor both in detergent-solubilized and in lipid vesicle-reconstituted form with high specificity. In the latter case, nonspecific binding to the sensor surface is significantly reduced by reconstituting the receptor into poly(ethylene glycol)-lipid-containing sterically stabilized vesicles. By preincubation of a bulk nicotinic acetylcholine receptor sample with the competing ligands carbamoylcholine and decamethonium bromide, the subsequent specific binding of the receptor to the surface-immobilized bungarotoxin is reduced, depending on the concentration of competing ligand. This competition assay allows the determination of the dissociation consts. of the acetylcholine receptor-carbamoylcholine complex. A KD = 3.5 + 10-6 M for the detergent-solubilized receptor and a KD = 1.4 + 10-5 M for the lipid vesicle-reconstituted receptor are obtained. For decamethonium bromide, a KD = 4.5 + 10-5 M is determined for the detergent-solubilized receptor. This approach is of general importance for investigating ligand-receptor interactions in case of small ligand mols. by mass-sensitive techniques.
ST acetylcholine receptor ligand binding surface plasmon resonance
IT Biosensors
(immunosensors, optical, surface plasmon-based; ligand binding to nicotinic acetylcholine receptor investigated by surface plasmon resonance)
IT Detergents
Dissociation constant
Immobilization, biochemical
Surface plasmon
(ligand binding to nicotinic acetylcholine receptor investigated by surface plasmon resonance)
IT Nicotinic receptors
RL: ANT (Analyte); ANST (Analytical study)
(ligand binding to nicotinic acetylcholine receptor investigated by surface plasmon resonance)
IT Lipids, uses
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(ligand binding to nicotinic acetylcholine receptor investigated by surface plasmon resonance)
IT 462-58-8, Carbamoylcholine 541-22-0, Decamethonium bromide
11032-79-4, α-Bungarotoxin
RL: ANT (Analyte); ANST (Analytical study)
(ligand binding to nicotinic acetylcholine receptor investigated by surface plasmon resonance)
IT 7440-57-5, Gold, uses **9013-20-1**, **Streptavidin**
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(ligand binding to nicotinic acetylcholine receptor investigated by surface plasmon resonance)
RE.CNT 67 THERE ARE 67 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Allen, T; FEBS Lett 1987, V223, P42 HCAPLUS
(2) Brink, G; Biochim Biophys Acta 1994, V1196, P227 HCAPLUS
(3) Camm, E; Arch Biochem Biophys 1982, V214, P563 HCAPLUS
(4) Chang, H; Biochemistry 1979, V18, P172 HCAPLUS
(5) Chen, L; Anal Chem 1992, V64, P3018 HCAPLUS

(6) Conti-Tronconi, B; Biochemistry 1990, V29, P1046 HCAPLUS
(7) Devillers-Thiery, A; J Membr Biol 1993, V136, P97 HCAPLUS
(8) Du, H; Biochim Biophys Acta 1997, V1326, P236 HCAPLUS
(9) Dunn, S; Biochemistry 1997, V36, P3846 HCAPLUS
(10) Eddowes, M; Biosensors 1987, V3, P1 HCAPLUS
(11) Franklin, G; FEBS Lett 1972, V28, P101 HCAPLUS
(12) Friguet, B; J Immunol Methods 1985, V77, P305 HCAPLUS
(13) Glaser, R; Anal Biochem 1993, V213, P152 HCAPLUS
(14) Gonzales-Ros, J; Biochim Biophys Acta 1981, V643, P407
(15) Gould, R; Biochemistry 1981, V20, P6776 HCAPLUS
(16) Gu, Y; J Med Chem 1994, V37, P417
(17) Heidmann, T; Annu Rev Biochem 1978, V47, P317 HCAPLUS
(18) Helenius, A; Biochim Biophys Acta 1975, V415, P29 HCAPLUS
(19) Hermanson, G; Immobilized Affinily Ligand Techniques 1992
(20) Hertling-Jaweed, S; Receptor Biochemistry A Practical Approach 1990, P163 HCAPLUS
(21) Heyse, S; Biochim Biophys Acta 1998, V1376, P319 HCAPLUS
(22) Hucho, F; Angew Chem Int Ed Engl 1995, V34, P39 HCAPLUS
(23) Hucho, F; Eur J Biochem 1996, V239, P539 HCAPLUS
(24) Johne, B; J Immunol Methods 1993, V160, P191 HCAPLUS
(25) Jonsson, U; Advances in Biosensors 1992, V2, P291
(26) Karlsson, R; Anal Biochem 1994, V221, P142 HCAPLUS
(27) Karlsson, R; Methods:A Companion to Methods in Enzymology 1994, V6, P99 HCAPLUS
(28) Kasai, M; J Membr Biol 1971, V6, P1 HCAPLUS
(29) Keller, T; Supramol Sci 1995, V2, P155 HCAPLUS
(30) Knoll, W; MRS Bull 1991, V56, P29
(31) Lasic, D; Science 1995, V267, P1275 HCAPLUS
(32) Lasic, D; Stealth Liposomes 1995
(33) Lee, C; Snake Venoms 1979
(34) Liedberg, B; Affinity Biosensors:Techniques and Protocols 1998, V7 HCAPLUS
(35) Mayo, C; J Immunol Methods 1989, V120, P105 HCAPLUS
(36) McIntosh, M; Arch Biochem Biophys 1982, V218, P335
(37) Mochly-Rosen, D; Biochemistry 1981, V20, P5920 HCAPLUS
(38) Montal, M; Biophys J 1984, V45, P165 HCAPLUS
(39) Naumann, R; Angew Chem Int Ed Engl 1995, V34, P2056 HCAPLUS
(40) Neubig, R; Biochemistry 1979, V18, P5464 HCAPLUS
(41) Nilsson, P; Anal Biochem 1995, V224, P400 HCAPLUS
(42) Ochoa, E; Cell Mol Neurobiol 1989, V9, P141 HCAPLUS
(43) O'Brien, R; Proc Natl Acad Sci U.S.A 1970, V65, P438 HCAPLUS
(44) Piehler, J; J Immunol Methods 1997, V201, P189 HCAPLUS
(45) Quinn, A; Immunol Methods 1988, V107, P197 HCAPLUS
(46) Raether, H; Physics of Thin Films 1977, V9, P145 HCAPLUS
(47) Rauer, B; Biophys Chem 1996, V58, P3 HCAPLUS
(48) Ringler, P; Biochim Biophys Acta 1997, V1324, P37 HCAPLUS
(49) Robinson, G; Sens Actuators B 1995, V29, P31
(50) Rogers, K; Biosens Bioelectron 1991, V6, P507 HCAPLUS
(51) Salamon, Z; Proc Natl Acad Sci U.S.A 1993, V90, P6420 HCAPLUS
(52) Schmidt, J; Anal Biochem 1973, V52, P349 HCAPLUS
(53) Schroder, B; J Biol Chem 1994, V269, P10407 MEDLINE
(54) Schurholz, T; Biochemistry 1992, V31, P5067 MEDLINE
(55) Sine, S; J Biol Chem 1979, V254, P3315 HCAPLUS
(56) Sjolander, S; Anal Chem 1991, V63, P2338 MEDLINE
(57) Stevens, F; Mol Immunol 1987, V24, P1055 HCAPLUS
(58) Striebel, C; Biosens Biolectron 1994, V9, P139 HCAPLUS
(59) Sugiyama, H; J Mol Biol 1976, V106, P485 HCAPLUS
(60) Szoka, F; Annu Rev Biophys Bioeng 1980, V9, P467 HCAPLUS
(61) Taylor, P; Ann N Y Acad Sci 1991, V625, P568 HCAPLUS
(62) Ulman, A; An Introduction to Ultrathin Organic Films:From Langmuir-Blodgett to Self-Assembly 1991
(63) Weber, M; Mol Pharmacol 1974, V10, P1 HCAPLUS
(64) Weber, M; Mol Pharmacol 1974, V10, P35 HCAPLUS
(65) Weber, M; Mol Pharmacol 1974, V10, P35 HCAPLUS

(66) Weiland, G; Mol Pharmacol 1978, V15, P197
(67) Wilson, P; Proc Natl Acad Sci U.S.A 1984, V81, P2553 HCAPLUS

L101 ANSWER 4 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:222928 HCAPLUS
DN 130:264438
ED Entered STN: 12 Apr 1999
TI Sulfonated xanthene derivatives synthesis and applications as fluorescent stains
IN Mao, Fei; Leung, Wai-Yee; Haugland, Richard P.
PA Molecular Probes, Inc., USA
SO PCT Int. Appl., 63 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C07D311-82
ICS C07D491-14; C07D405-12; C07D491-22; C07H003-06; C07H021-00; C07H019-04; C07K014-415; G01N001-30
CC 9-15 (Biochemical Methods)
Section cross-reference(s): 6, 27
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 9915517	A1	19990401	WO 1998-US19921	19980923	<--
	W: AU, CA, JP, US					
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE					
	US 6130101	A	20001010	US 1997-935963	19970923	<--
	CA 2272403	AA	19990401	CA 1998-2272403	19980923	<--
	AU 9895046	A1	19990412	AU 1998-95046	19980923	<--
	AU 750380	B2	20020718			
	EP 966458	A1	19991229	EP 1998-948483	19980923	<--
	EP 966458	B1	20030813			
	R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE, IE					
	JP 2001508494	T2	20010626	JP 1999-519270	19980923	<--
	AT 247098	E	20030815	AT 1998-948483	19980923	<--
	WO 2000017650	A1	20000330	WO 1999-US22193	19990923	
	W: AU, CA, JP					
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE					
	AU 9964002	A1	20000410	AU 1999-64002	19990923	
PRAI	US 1997-935963	A	19970923	<--		
	WO 1998-US19921	W	19980923			
	US 1998-209045	A	19981209			
	WO 1999-US22193	W	19990923			

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES	
WO 9915517	ICM	C07D311-82	
	ICS	C07D491-14; C07D405-12; C07D491-22; C07H003-06; C07H021-00; C07H019-04; C07K014-415; G01N001-30	
WO 9915517	ECLA	C09B011/08; C09B011/24	<--
US 6130101	ECLA	C07D311/82; C07D405/12+311+207; C07D491/14+311A+221A+221A; C07D491/22+311A+221C+221C+221A; C07H001/00G; C09B011/08; C09B011/24	<--
WO 2000017650	ECLA	C07D311/82; C07K014/415; G01N001/30; G01N033/533; G01N033/58D	

OS MARPAT 130:264438
AB The present invention describes xanthene dyes, including rhodamines, rhodols and fluoresceins that are substituted one or more times by a sulfonic acid or a salt of a sulfonic acid. The dyes of the invention, including chemical reactive dyes and dye-conjugates are useful as fluorescent

probes, particularly in biol. samples.
ST sulfonated xanthene fluorescent dye probe conjugate stain
IT Proteins, specific or class
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(A; sulfonated xanthene derivs. synthesis and applications as fluorescent stains)
IT Immunoglobulins
Proteins, specific or class
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(G; sulfonated xanthene derivs. synthesis and applications as fluorescent stains)
IT Phycoerythrins
RL: RCT (Reactant); RACT (Reactant or reagent)
(R-phycoerythrins, pyridyldisulfide modified; sulfonated xanthene derivs. synthesis and applications as fluorescent stains)
IT Proteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process)
(conjugates, sulfonated xanthene conjugate; sulfonated xanthene derivs. synthesis and applications as fluorescent stains)
IT Escherichia coli
(derivatized with amine-reactive sulfonated xanthene dye; sulfonated xanthene derivs. synthesis and applications as fluorescent stains)
IT Staining, biological
Stains, biological
(fluorescent; sulfonated xanthene derivs. synthesis and applications as fluorescent stains)
IT Gene, animal
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(for actin; sulfonated xanthene derivs. synthesis and applications as fluorescent stains)
IT Actins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(gene for; sulfonated xanthene derivs. synthesis and applications as fluorescent stains)
IT Drug delivery systems
(injections, microinjection; sulfonated xanthene derivs. synthesis and applications as fluorescent stains)
IT Nerve
(neuron, cell tracing; sulfonated xanthene derivs. synthesis and applications as fluorescent stains)
IT Receptors
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(pharmaceutical; sulfonated xanthene derivs. synthesis and applications as fluorescent stains)
IT Organelle
(pinosome; sulfonated xanthene derivs. synthesis and applications as fluorescent stains)
IT Artery
(pulmonary, cells; sulfonated xanthene derivs. synthesis and applications as fluorescent stains)
IT Animal cell
Bacteria (Eubacteria)
Complexing agents

Drugs
Microparticles
Plant cell
Protista
Virus
Yeast
(sulfonated xanthene conjugate; sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT Actins
Agglutinins and Lectins
Allophycocyanins
Amino acids, biological studies
Antibodies
Avidins
Biliproteins
Disaccharides
Growth factors, animal
Haptens
Lipids, biological studies
Monosaccharides
Nucleic acids
Nucleotides, biological studies
Peptides, biological studies
Polymers, biological studies
Polysaccharides, biological studies
Toxins
RL: BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process)
(sulfonated xanthene conjugate; sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT Chelating agents
Cytolysis
Drugs
Electroporation
Fluorescent dyes
Fluorescent probes
Fluorescent substances
Ions
Liposomes
Microtubule
Nucleic acid hybridization
Phagocytosis
Staining, biological
Stains, biological
Staphylococcus aureus
Test kits
(sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT DNA
RL: ANT (Analyte); ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT Actins
Tubulins
mRNA
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT Agglutinins and Lectins
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT Antibodies
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT Antigens
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT Avidins
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT Carbohydrates, analysis
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT Enzymes, analysis
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT Hormone receptors
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT Hormones, animal, analysis
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT Peptide receptors
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT Peptides, analysis
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT Probes (nucleic acid)
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL

(Biological study); PROC (Process)
(sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT Protein receptors
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT Proteins, general, analysis
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT RNA
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT Receptors
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT Toxins
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT Agglutinins and Lectins
RL: RCT (Reactant); RACT (Reactant or reagent)
(sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT Dyes
(xanthene; sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT 178623-12-6DP, Rhodamine Red X, conjugates
RL: SPN (Synthetic preparation); PREP (Preparation)
(Rhodamine Red X; sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT 9003-53-6DP, Polystyrene, amine derivative
RL: ARU (Analytical role, unclassified); BUU (Biological use, unclassified); SPN (Synthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(fluorescently labeled microspheres; sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT **58-85-5, Biotin 9013-20-1, Streptavidin** 17466-45-4, Phalloidin
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT 56-65-5, 5'-ATP, analysis
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT 222164-96-7DP, conjugate
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process)
(sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT 222164-86-5P 222164-96-7P
RL: ARU (Analytical role, unclassified); RCT (Reactant); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); RACT (Reactant or reagent)
(sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT 222159-90-2P
RL: ARU (Analytical role, unclassified); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation)
(sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT **9013-20-1DP**, **Streptavidin**, sulfonated xanthene conjugate
RL: BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process)
(sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT 68-11-1, Mercaptoacetic acid, reactions 117-08-8, Tetrachlorophthalic anhydride 463-71-8, Thiophosgene 552-30-7, Trimellitic anhydride 619-66-9, 4-Carboxybenzaldehyde 652-12-0, Tetrafluorophthalic anhydride 870-46-2, tert-Butyl carbazate 1319-82-0, Aminocaproic acid 5466-84-2, 4-Nitrophthalic anhydride **11032-79-4D**, α-Bungarotoxin, conjugate 35167-99-8D, amino derivative 37293-51-9, Aminodextran 41175-50-2 51644-96-3 58196-33-1 63095-11-4 93801-18-4D, conjugate 105832-38-0 126695-58-7 163222-21-7D, rhodamine derivative conjugate 179898-22-7 220906-39-8 222159-69-5 222159-71-9 222159-75-3 222159-87-7 222164-84-3 222164-97-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT 222159-70-8P 222159-72-0P 222159-73-1P 222159-74-2P 222159-79-7P 222159-82-2P 222159-84-4P 222159-85-5P 222164-80-9P 222164-81-0P 222164-92-3P 222164-95-6P 222164-98-9P 222164-99-0P 222165-01-7P 222165-02-8P 222165-04-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

IT 2321-07-5DP, Fluorescein, conjugates 146397-20-8DP, CY-3, conjugates 183185-51-5DP, Rhodol Green, conjugates 189200-71-3DP, Rhodamine Green, conjugates 199745-67-0DP, Texas Red-X, conjugates 222159-76-4P 222159-78-6P 222159-80-0P 222159-81-1P 222159-82-2DP, conjugate 222159-83-3P 222159-86-6P 222159-92-4DP, conjugate 222159-93-5DP, conjugate 222164-82-1P 222164-83-2P 222164-86-5DP, conjugate 222164-87-6P 222164-88-7P 222164-91-2P 222164-92-3DP, conjugate 222164-93-4P 222164-95-6DP, conjugate 222165-00-6P 222165-01-7DP, conjugate 222165-04-0DP, spiperone conjugate
RL: SPN (Synthetic preparation); PREP (Preparation)
(sulfonated xanthene derivs. synthesis and applications as fluorescent stains)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Applied Biosystems; WO 9405688 A 1994 HCAPLUS
(2) Bayer; DE 2421607 A 1975 HCAPLUS
(3) Becton Dickinson Cy; EP 0582836 A 1994 HCAPLUS
(4) Harvard; WO 8706138 A 1987 HCAPLUS

(5) Molecular Probes; WO 9739064 A 1997 HCAPLUS
(6) Takeda; EP 0795554 A 1997 HCAPLUS

L101 ANSWER 5 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:774131 HCAPLUS
DN 130:38707
ED Entered STN: 10 Dec 1998
TI Topologically segregated, encoded solid phase libraries
IN Lebl, Michal; Lam, Kit S.; Salmon, Sydney E.; Krchnak, Victor; Sepetov, Nikolai; Kocis, Peter
PA Selectide Corporation, USA
SO U.S., 63 pp., Cont.-in-part of U.S. Ser. No. 68,327, abandoned.
CODEN: USXXAM
DT Patent
LA English
IC ICM C12Q001-68
ICS G01N033-53; C07K017-02; C07H021-04
NCL 435006000
CC 34-3 (Amino Acids, Peptides, and Proteins)
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	US 5840485	A	19981124	US 1994-249830	19940526	<--
	CA 2163637	AA	19941208	CA 1994-2163637	19940527	<--
	WO 9428028	A1	19941208	WO 1994-US6078	19940527	<--
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	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG					
	AU 9470486	A1	19941220	AU 1994-70486	19940527	<--
	AU 686186	B2	19980205			
	EP 705279	A1	19960410	EP 1994-919294	19940527	<--
	EP 705279	B1	20030219			
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE					
	JP 09501490	T2	19970210	JP 1995-501022	19940527	<--
	JP 3394777	B2	20030407			
	AT 232882	E	20030315	AT 1994-919294	19940527	<--
	EP 1310510	A2	20030514	EP 2003-3577	19940527	<--
	EP 1310510	A3	20040421			
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI					
	PT 705279	T	20030731	PT 1994-919294	19940527	<--
	ES 2204921	T3	20040501	ES 1994-919294	19940527	<--
	US 6090912	A	20000718	US 1998-198209	19981123	<--
PRAI	US 1993-68327	B2	19930527	<--		
	US 1994-249830	A	19940526	<--		
	EP 1994-919294	A3	19940527	<--		
	WO 1994-US6078	W	19940527	<--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES	
US 5840485	ICM	C12Q001-68	
	ICS	G01N033-53; C07K017-02; C07H021-04	
	NCL	435006000	
US 5840485	ECLA	C07K001/04C	<--
WO 9428028	ECLA	C07K001/04C	<--
EP 1310510	ECLA	C07K001/04C	<--
US 6090912	ECLA	C07K001/04C	<--

AB The invention relates to libraries of synthetic test compound attached to sep. phase synthesis supports that also contain coding mols. that encode the structure of the synthetic test compound The mols. may be polymers or multiple nonpolymeric mols. The synthetic test compound can have backbone structures with linkages such as amide, urea, carbamate (i.e., urethane),

ester, amino, sulfide, disulfide, or carbon-carbon, such as alkane and alkene, or any combination thereof. Examples of subunits suited for the different linkage chemistries are provided. The synthetic test compound can also be a mol. scaffold having various substituents at defined positions, in which the scaffolds can be derivs. of monocyclic of bicyclic carbohydrates, steroids, sugars, heterocyclic structures, polyarom. structures, or other structures capable of acting as a scaffolding. Examples of suitable mol. scaffolds are provided. Preferably the library is one in which each synthetic test compound is non-sequenceable, i.e. not amenable to sequencing, and is paired with a unique coding mol., e.g., a peptide, whose sequence encodes the structure of the synthetic test compound attached to the same support and can be readily determined using traditional anal. techniques, e.g., Edman degradation The library is useful for identifying and analyzing a ligand of an acceptor of interest. The invention also relates to methods of synthesizing such libraries and the use of such libraries to identify and characterize mols. of interest from among the library of synthetic test compound

ST encoded solid phase library; peptide encoded library; ligand receptor

IT Solid phase synthesis
(peptide; preparation of topol. segregated, encoded solid phase libraries)

IT Combinatorial chemistry
(preparation of topol. segregated, encoded solid phase libraries)

IT Peptides,